Harveian Lectures

ON THE

VARIOUS MANIFESTATIONS OF THE RHEUMATIC STATE

AS EXEMPLIFIED IN

CHILDHOOD AND EARLY LIFE.

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LECTURE I.

Rheumatism not to be regarded as a mere affection of the joints.—Arthritis only one of many rheumatic phenomena.—Various phases of the rheumatic state.—General characteristics of the rheumatism of childhood as compared with that of adults.—Comparative insignificance of the joint affection.—Greater prominence and frequency of other phases.—Tendency of the various phenomena of the rheumatic series to appear independently.—They may occur singly, or in various combinations, in varying order of sequence, at different intervals of time.—Examples.—Influence of inherited tendency.—Influence of sex.—The rheumatic phenomena considered in detail.—Arthritis.—Special characters in childhood.—Variation in the chief symptoms from the adult type.

MR. PRESIDENT AND GENTLEMEN,—There is perhaps no serious disease more familiar to us than acute articular rheumatism; it is one of the disorders most commonly seen in the wards of a general hospital; it is constantly encountered in private practice; and I must confess that when I chose Rheumatism as the subject of the lectures which you have done me the honour to ask me to deliver, I was almost afraid that it might be deemed too trite and commonplace, destitute of sufficient novelty and interest. But there is a certain advantage in treating of a matter with which the audience are sufficiently familiar, and I trust I shall be able to present it to you in some new aspects, and to attract attention to certain points of great interest hitherto, I think, insufficiently considered; and thus I hope that my choice may be justified, and any unfavourable criticism in this respect eventually disarmed. I must premise, at the outset, that in these lectures I shall use the terms "rheumatism" and "rheumatic" in the strictest sense as applying only to that form which is distinguished as acute or genuine rheumatism, of which what is known as rheumatic fever is the most extreme expression in adults, but which appears with every degree of acuteness and severity, and also, as I hope to show, in many different phases.

Acute articular rheumatism is not only an extremely common disease, but it has very striking and obvious symptoms by which it is readily recognised; the swollen, tender, painful joints, the fever, the profuse sour-smelling perspirations, render a typical case unmistakable and distinct; yet this is a picture of the disease very rarely seen in childhood. Even in its milder forms, genuine articular rheumatism preserves its special features; some may be absent, others modified; yet the stiffness, tenderness, and swelling of joints usually indicate the nature of the affection. Yet this, again, does not represent rheumatism completely as seen in childhood. We are so accustomed to associate the term "rheumatism" with this condition of the joints, to regard it as the chief and essential feature, and any associated affections of other parts as mere complications, that it is difficult at first to realise that articular inflammation is only one of many direct and sometimes independent manifestations of the rheumatic state. This is, however, the one central idea which I wish to enforce. The ordinary conception of acute rheumatism, as essentially characterised by articular inflammation, is based upon observation of the disease as we see it in adults; in them the arthritis is one of the most constant, prominent, and characteristic of the morbid phenomena which arise. The names rheumarthritis, polyarthritis, polyarthritis synovialis, and polyarthritis rheumatica acuta, reflect this narrow view.

A study of the disease in children, however, leads to a far wider conception. In the rheumatism of early life other morbid conditions appear prominently and constantly, which may claim equally with the arthritis to be regarded as direct results of rheumatic activity, and in childhood arthritis cannot be regarded as alone typical, essential, and representative.

The most complete and comprehensive manifestation of the various phases of rheumatism belongs, indeed, to the period of childhood; it appears then, under the simplest conditions, and this presentation of the disease should be regarded as representative, and the changes which take place in the phenomena with advancing age regarded as modifications of the earlier and more perfect form. I will ask you, gentlemen, to put aside, at any rate for the moment, this limited and narrow view of rheumatism as inseparably associated with arthritis, a view based upon observation of the disease in grown persons, and to look at it from a new standpoint.

There are certain affections which have been observed to be so frequently associated with acute rheumatism that the existence of some pathological connexion between them has come to be very generally accepted, although the extent and intimacy of the association may be a matter of controversy. Endocarditis and pericarditis, for example, are so constantly seen as immediate accompaniments of articular rheumatism, even in adults, that there is no question of their relation to it; and in the case of children the connexion is still more frequent and more intimate. Pleurisy, again, and tonsillitis are allowed to be not unfrequently accompaniments of articular rheumatism in both periods of life. But with these I think the list ends as far as adults are concerned. If we turn to children, however, we learn that the scope of acute rheumatism is wider still. Other manifestations appear in undoubted association with it in early life, and must be included in the series of rheumatic phases, although some decline or disappear in later life. Subcutaneous tendinous nodules, chorea, and exudative erythema are (the first I think always, the two latter commonly) developments of rheumatism. There are other affections which have been deemed by some to be minor expressions of the rheumatic diathesis. I have not satisfied myself upon this point, and I wish to limit the list to those generally accepted as having some connexion with it. The claims of endocarditis, of pericarditis, of pleurisy, of tonsillitis, of exudative erythema, of chorea, of subcutaneous nodules, will hardly, I think, be seriously disputed. I shall have something to say on this point when I come to speak of them in detail; but for my present purpose I shall assume the connexion and speak of these seven phases, together with arthritis, as the rheumatic series.

Let me not be misunderstood in this matter however. I do not say that the rheumatic poison, or whatever the morbid influence may be, is the sole cause of these affections associated with rheumatic arthritis, any more than it is the sole cause of inflammation of joint structure. They are set up by other causes, just as arthritis is set up by other causes; arthritis, for example, may be set up by mechanical injury, by the poison of gout, or that of septicæmia or pyæmia. Yet the rheumatic poison is the most common exciting cause of arthritis, and so with other members of the rheumatic series. Take, for instance, pericarditis, endocarditis, and pleurisy. The most common cause of the first two, at any rate, is rheumatism. Yet these same inflammations of the pericardium, endocardium, and pleura are now and again set up by the septic or pyæmic poison, or that of uræmia. Tonsillitis, erythema, and chorea, in like manner, are undoubtedly set up by other exciting causes as well as by rheumatism, although the latter is a frequent and potent one. The only manifestation of the series absolutely and solely rheumatic, never stirred up, as far as I know, by any stimulus except the rheumatic stimulus, is the evolution of subcutaneous tendinous nodules.

It appears, then, that the rheumatic virus (whatever its exact nature and by whatever physiological machinery it acts) which produces the articular inflammation produces in like manner inflammation of the fibrous tissue of the pericardium, endocardium, and pleura, and that of fasciæ and

tendons. It has clearly an irritant inflammatory effect upon fibrous tissue, not of the joints alone but of these other structures. It affects, moreover, mucous membrane and skin, and disturbs nervous centres. The conception of rheumatism, then, which I shall endeavour to put forward and establish is this broad one: That the terms "rheumatism" and "rheumatic" must be held to include many various morbid expressions—the series of phenomena I have laid down,—and must not be regarded as a special inflammation of tendons and ligaments or synovial membranes, or a condition of which this is always the chief feature, accompanied by complications and sequelæ. The term "diathesis" is quite inadequate; there is something more than mere tendency—a common factor concerned in the production of these different phases—and forming the link between.

The rheumatism of childhood exhibits a marked contrast to the disease as it is seen in mature life. The articular affection, which is regarded as the very type and essence of the latter, has not yet become the chief feature, but is usually slight and subordinate, and, indeed, may be absent altogether from a seizure undoubtedly rheumatic in its nature; while other phases, again, less marked in the disease of adult life, or even absent from it altogether, rule as prominent and characteristic features. The joint tissues are less susceptible; the other fibrous tissues more so. Subcutaneous nodules, which are so frequent and significant in early life, practically disappear with the advent of puberty; and chorea, so common in connexion with the rheumatism of childhood, disappears as full maturity is reached. Endocarditis and pericarditis, again, frequent as they are in adult life, are more frequent still in children—i.e., they tend to decline as age advances.[1] In the rheumatism of early life arthritis is at its minimum; endocarditis, pericarditis, chorea, and subcutaneous nodules at their maximum. As life advances this is gradually reversed; the joint affection becomes more prominent, constant, and typical of the disease, and reaches its maximum; while the other phenomena decline and tend to die out. So that, if the picture of the disease had been drawn originally (as it should be) from the rheumatism of childhood, the articular affection would not have been taken as representative, or endocarditis and pericarditis spoken of as complications. Endocarditis or chorea would have been taken as the primary essential phenomena, and the articular affection as a complication. Yet none are really to be regarded as complications. When, for instance, any of these phases—pericarditis, nodules, or chorea—occur in immediate association with arthritis, they are in no way set up by the arthritis; they may come before it or after it, or occur quite independently. And so with the articular affection: the various phases are not complications or sequelæ, but direct manifestations of rheumatic activity.

Another point of distinction between the rheumatism of childhood and that of later life is the tendency of the various phases to arise independently and apart from each other. They do, indeed, occur grouped together commonly enough, as in adult life; but often also the series of rheumatic events is spread out, scattered over a period of months or years, so that the history of a rheumatism may be the history of childhood. There may be, for instance, an endocarditis at one time, a chorea at another, a tonsillitis at another, without any other manifestation at the moment, and yet each may be as essentially an expression of rheumatism as the articular affection, which may perhaps have happened long before, or does not appear until long after. Look, for instance, at Series VIII., in the abstracts of cases in the table, showing the succession of rheumatic events—the first event was chorea, the articular affection not occurring until eleven months later; or at Series II., where the first event was an endocarditis which had occurred years at least before any arthritis was observed; or at Series X., where there were two attacks of chorea before the arthritis appeared. There was nothing, under the present system of taking articular affection as the key to the condition, to show that the chorea or endocarditis were rheumatic at the time they occurred. More usually, however, two or three phases occur more or less closely together; as, for instance, the common coincidence of arthritis with endocarditis (as in Series I.), or chorea, nodules, and endocarditis.

The rheumatic series as seen in children may, indeed, be complete or incomplete in any degree. The whole series may follow in succession or it may be limited to a single event—even an arthritis only, or a chorea only, or an endocarditis only, without subsequent development of any other rheumatic seizure. Again, the combinations of the different phases of the rheumatic series may follow any order of sequence. Sometimes—most commonly—an arthritis first; sometimes a chorea first; or an endocarditis. We are so accustomed to regard arthritis as the starting-point, and other manifestations as complications or sequelæ, that the possibly rheumatic nature of the affections which come before it is liable to be overlooked. Yet these manifestations, developed previously to arthritis, cannot be looked upon as complications or sequelæ, for there is no arthritis to complicate or follow. They are direct and independent results of the rheumatic disturbance. Further, these phases of the rheumatic series may be either closely associated in point of time, singly or in groups, or scattered, with varying intervals between. Here, again, we are so accustomed to look at the short series of adult rheumatism, minus chorea and nodules, occurring coincidentally with arthritis, that even a group of significant affections occurring apart from arthritis would hardly be recognised as rheumatic. And so on with the other members of the morbid series, some of which, again, may be repeated more than once. Clinical examples, from cases actually observed, will serve to illustrate most clearly some of the various combinations and the wide range and protean character of rheumatism in children. The most frequent of all is the one with which we are so familiar in adults.

Series I.—(1) Arthritis; (2) endocarditis; these may recur frequently without other phases. H. B. K——, a boy of nine, was brought to the Hospital for Sick Children in Jan. 1888, with rheumatism of the joints and advanced mitral disease. Here the arthritis recurred almost yearly, and probably the endocarditis, for when examined in 1888 there were marked thrill, a double murmur at the apex, and enormous hypertrophy and dilatation, while the chorea did not appear until six years after the first arthritis. Often in childhood to these two manifestations are added the development of nodules, and perhaps pericarditis or pleurisy.

Series II.—C. H. B—— was brought to the Hospital for Sick Children in May, 1888, for pains in the knees and various joints. Small subcutaneous nodules were found on the knees, elbows, and malleoli. He had had pains in the back of the knees and in the ankles for the previous five weeks, never before. There was a double mitral murmur with great hypertrophy. Pleurisy developed on June 7th; then a fresh crop of nodules on June 9th; pericarditis on June 11th, and again on July 14th; fresh crop of nodules on July 14th. With this came excited action of the heart; the pulse rose to 140, marking the advent of fresh endocarditis and probably of pericarditis. Pleurisy (slight) followed on Aug. 16th; after this, gradual failure, and death on Sept. 6th. In this case the endocarditis must have occurred some years before the pains in the joints were first noted, which was only five weeks before admission, whereas the heart disease was of long standing, as evidenced by the great hypertrophy. It is to be noted, too, in this case how endocarditis, pericarditis, and pleurisy coincided with the appearance of fresh crops of nodules.

Another common series is that represented in

Series III.—(1) Arthritis and endocarditis; (2) chorea. George S——, aged seven years and a half, was admitted for right paretic hemichorea. He had had rheumatic arthritis seven months before, accompanied by endocarditis, evidenced by a loud mitral murmur. Two months later he had chorea; then a second attack, for which he was admitted. There was a family history of rheumatism; the father had had rheumatic fever; the mother chorea as a child.

Sometimes the arthritis appears to be missing. Thus:—

Series IV.—Henry C——, aged ten years and a half, was admitted to Great Ormond-street, June, 1878, with mitral stenosis and regurgitation and great hypertrophy. He had never had any joint affection, but he had had chorea three years before. It was found, moreover, that his mother had had rheumatic fever, and was suffering from valvular disease of the heart resulting from it. I think that in this case the morbus cordis must be reasonably attributed to rheumatic endocarditis; the chorea to rheumatic influence likewise,

[1] The statistics of the Collective Investigation Committee of the British Medical Association (British Medical Journal, Feb. 1888) give 72 per cent. of heart disease in rheumatism in the case of children, as compared with 46 per cent. in male adults. In the case of female adults the difference is not so marked—i.e., they retain in some degree the special proclivity of childhood.

CLINICAL EXAMPLES OF DIFFERENT COMBINATIONS OF VARIOUS PHASES OF THE RHEUMATIC SERIES.

SERIES I.	SERIES II.	SERIES III.	SERIES IV.	SERIES V.	SERIES VI.	SERIES VII.	SERIES VIII.	SERIES IX.	SERIES X.
H. K. B., boy aged nine. (Hosp. Sick Children, 1888.)	C. H. B., boy aged five. (Hosp. Sick Children, 1888.)	G. S., aged seven. (Hosp. Sick Children.)	H. C., aged ten. (Hosp. Sick Children, 1878.)	A. W., aged sixteen. (St. Mary's Hosp.)	A.B., aged twelve. (St. Mary's Hosp., 1884.)	F. M. C., aged seven.	W. S., aged four years and a half. (Hosp. Sick Ch., 1887.)	F. M., aged five. (Hosp. Sick Children, 1888.)	John T., aged seven. (Hosp. Sick Children, Dec. 1887.)
1. Arthritis, endocarditis. (1882.)	1. Endocarditis (?)	1. Arthritis, endocarditis.	1. Chorea, endocarditis (1875.)	1. Chorea, endocarditis. (1874.)	1. Arthritis, endocarditis. (1881.)	1. Arthritis (severe), tonsillitis. (1878.)	1. Chorea, probably accompanied by endocarditis. (Nov. 1886.)	1. Arthritis. (Sept. 1887.)	1. Chorea, attributed to fright. (Nov. 1886.)
				Mitral disease found with—			Interval of eleven months.		
2. Arthritis, endocarditis. (1884.)	2. Arthritis, evolution of nodules. (March, 1888.)	2. Chorea five months later.	2. Mitral disease found. (1878.)	2. Arthritis four years later. (1878.)	2. Chorea. (Dec. 1884.) Old-standing mitral disease discovered.	2. Purpura rheumatica. (1883.)	2. Arthritis, first attack. (Oct. 1887.)	2. Arthritis (second attack.) (Jan. 1888.)	2. Chorea (second attack), likewise attributed to fright. (Aug. 1887.)
3. Arthritis, endocarditis. (1885. Recurring almost yearly for 6 years.)	3. Second crop of nodules, pleurisy, pericarditis. (June, 1888.)	3. Chorea after two months' interval. (Father had rheumatic fever; mother had chorea as a child.)	3. Arthritis absent. (Mother rheumatic; fever and heart disease).	....	3. Pericarditis. (Jan. 1885.)	3. Chorea. (1883.)	3. Chorea (second attack), subcutaneous nodules, endocarditis, erythema marginatum. (Nov. 1887.)	3. Chorea, eruption of nodules, endocarditis (first attack). (March, 1888.) Arthritis (third attack). (April.) Erythema marginatum.	3. Arthritis, evolution of nodules. (Nov. 1887.) Endocarditis. (Dec.)
4. Arthritis, endocarditis. (1886.)	4. Third crop of nodules, fresh endocarditis, fresh pericarditis. (July, 1888.)	....	....	....	....	4. Tonsillitis, constantly recurring for several years. (1883–4–5.)	4. Emotional attacks, chorea (continued), fresh nodules. (Dec. 1887.)	4. Chorea (second attack), eruption of nodules (second attack). (Dec. 1888.)	4. Chorea (third attack), emotional attacks, large nodules (second eruption), arthritis (second attack), endocarditis, pericarditis, pleurisy. (June, 1888.)
5. Arthritis, endocarditis. (1887.)	5. Pleurisy, pericarditis (recurreut) (August, 1888.)	....	....	....	....	....	5. Erythema marginatum, fresh eruption of nodules, chorea (relapse), arthritis (second attack). (Jan. 1888.)	....	5. Endocarditis, pericarditis. (July, 1888.) Death, Aug. 1888.
6. Arthritis, chorea. (1888.)	....	....	....	....	....	....	6. Fresh eruption of erythema, fresh crop of nodules, tonsillitis. (Feb. 1888.) Death, March, 1888.	....	....

although no arthritis had appeared up to the time of observation.

The combination in which the articular affection appears last in the series throws much light on such cases as the preceding. Here is an example:—

Series V.—Alice W——, aged sixteen, admitted to St. Mary's Hospital complaining of pain, stiffness, and tenderness of knees and ankles. On examining the chest, well-marked mitral disease of old standing was found—viz., a loud regurgitant murmur, with great hypertrophy and dilatation. The original endocarditis must have taken place years before. Yet, observe, she was not known to have had any joint affection before the present attack; but she had had chorea four years before, and, moreover, her mother had had rheumatic fever; her mother's sister had had rheumatic fever. Can there be any reasonable doubt that both chorea and endocarditis (which, no doubt, occurred with the chorea four years before the articular rheumatism) were both of them rheumatic? Yet, until the articular affection appeared, which was delayed to the age of sixteen, this case was exactly similar to the preceding. If the chorea and accompanying endocarditis had been recorded at the time of their occurrence, there would have been nothing to stamp them as rheumatic, and the endocarditis would have been styled "choreic." The appearance of acute articular rheumatism afterwards, and the family history of the disease in mother and aunt, revealed the link between the different phases.

Another combination where arthritis and endocarditis commence the series and pericarditis and chorea follow later on is thus shown:—

Series VI.—A. B——, a girl of twelve, was admitted into St. Mary's Hospital in 1884 for severe chorea. She had had rheumatic fever three years before; she had also had endocarditis, as evidenced by a loud mitral murmur. The chorea rapidly got well under arsenic; but just at this point acute pericarditis came on. There was not the slightest affection of the joints, yet I take it both chorea and pericarditis were rheumatic.

You will observe that either endocarditis or pericarditis is present in each of the preceding series. Yet these most serious of all the rheumatic phases, present, as I have said, in nearly three-fourths of articular affections in children, is sometimes wanting. Happily this was so in the case of one of my own boys, and his history also illustrates the connexion of two of the less prominent phenomena of the rheumatic series—viz., purpura rheumatica and tonsillitis.

Series VII.—F. M. C——, a boy of seven, had acute articular rheumatism, with tonsillitis, in 1878. There was no endocarditis or pericarditis or other manifestation—arthritis and tonsillitis only; and for several years there was complete quiescence of rheumatic activity. Then in 1883, or five years after the arthritis, purpura rheumatica appeared; this was unaccompanied by any other phase. Then, about one year later, chorea and emotional attacks occurred. Finally, he had tonsillitis, recurring frequently and severely for four or five years.

In all the examples yet given the rheumatic series has been incomplete, as indeed it is most commonly, many of the minor phases especially being wanting. This is, however, partly due no doubt to the imperfection of the record, many of the cases being taken before the significance of subcutaneous nodules, tonsillitis, and erythema was fully recognised.

I will add, therefore, in conclusion of this part of the subject, three more combinations, in which the series is fuller and almost complete.

Series VIII.—Look at the remarkable succession of rheumatic events, occurring chiefly in groups, given in this series. W. S——, a boy of five, was recently under my care in the Children's Hospital. The first event was an attack of chorea in November, 1886, when the boy was between three and four years old. This was almost certainly accompanied by endocarditis, for a double mitral disease of old standing was discovered on his admission to hospital a year later. The second event was an attack of articular rheumatism, (the first) in October, 1887. The third group of events was a second attack of chorea, accompanied by an extraordinary development of subcutaneous nodules, and also by fresh endocarditis and erythema marginatum, in November, 1887. The fourth group of events was a series of emotional attacks, accompanied by further evolution of subcutaneous nodules and continued chorea, in December, 1887. The fifth group of events comprised a second eruption of erythema, a second eruption of subcutaneous nodules, a relapse of chorea, and (last in order) a second attack of arthritis, in January, 1888. The sixth group of events consisted of a third eruption of nodules, a third eruption of erythema, and tonsillitis, in February, 1888, followed by death in March. Here I would ask you to observe that the very first event of the series was chorea (probably accompanied by endocarditis), the first appearance of rheumatism of the joints being delayed until one year later; so that, if we take the joint affection as the test, there was nothing, when the chorea first occurred, to indicate its rheumatic nature; and it would no doubt have been classed as non-rheumatic, and the accompanying endocarditis simply termed "choreic." The rheumatic relation was only established by subsequent events, and the last phase was tonsillitis, in an unusual place, late in the series.

Series IX.—The next example (F. M——, aged five, Hospital for Sick Children, 1886) is not quite so complete, but represents a common sequence of events. The first was articular rheumatism in September 1887. There was no other manifestation at the time. The next event was a second attack of articular rheumatism four months later (January, 1888); and this, again, was unaccompanied by any other manifestation. The third event came three months later still, when chorea developed, and this was accompanied by an eruption of large subcutaneous nodules, and with these the first sign of endocarditis, and also another phase—erythema marginatum. The fourth event, a month later still, consisted in a fresh eruption of nodules only, followed by convalescence and quiescence until December, 1888, when the boy was readmitted to hospital with a fifth rheumatic development, consisting of chorea and another eruption of nodules. This case presents the unusual feature of two attacks of arthritis without appreciable endocarditis. A soft murmur was first found, without hypertrophy, in the third period, together with the chorea, an evolution of nodules, and a slight arthritis of one wrist only.

Series X.—The last example which I have to give exhibits the rheumatic events in different order. J. T——, a boy of seven, was admitted to the Children's Hospital in December, 1887. The first event in his case was chorea, accompanied at the time by no other phase of rheumatism, and attributed to fright (November, 1886). The second event was a second attack, likewise unaccompanied by any other manifestion of rheumatism, and attributed to fright (August, 1887). Up to this period there had been no arthritis, but two months later it came as a group of phases comprising the third manifestation—viz., arthritis, evolution of large nodules, endocarditis (November and December, 1887); then a period of rest for nearly six months; after which came the fourth group of events, comprising a third attack of chorea with emotional seizures, a second eruption of nodules, pleurisy, pericarditis (June, 1888); and, lastly, the fifth and final manifestation—recurrent endocarditis, pericarditis (in July, 1888), and death (August, 1888), when the pericardium was found enormously thickened, the aortic and tricuspid valves thickened, and the mitral thickened to a remarkable degree. In this case, intensely rheumatic, which ended fatally, it is deserving of notice that two attacks of chorea at intervals of a year, both attributed to fright, preceded the first known attack of articular rheumatism; and also that the persistent endocarditis and pericarditis marched *pari passu* with the evolution of nodules.

Such, gentlemen, are some of the combinations of the rheumatic series. They are all taken from actual cases; but the list is not exhausted; the varieties are numerous, as numerous perhaps as the combinations and permutations possible with the eight phases I have named as commonly rheumatic. But the brief summaries I have given will serve perhaps to exhibit the disease in its different outbreaks, extending over months or years, as one connected whole, instead of the fragmentary view afforded by a single phase, or the less numerous phenomena of the rheumatism of adult life.

Before I pass on to the consideration of each phase of rheumatism in detail there are two other characteristics of rheumatism in childhood to which I must make some allusion. One is the incidence of the disease upon the two sexes. The other the influence of inherited constitutional predisposition.

Taking first the influence of sex. The incidence of articular rheumatism upon males and females exhibits marked contrasts and variations at different periods of life. I ask your attention to this, because it has an important bearing upon the rheumatic connexion of chorea and heart

disease, which I shall have to point out later. Taking males and females of all ages together, articular rheumatism is somewhat more common in the former. The statistics of the Collective Investigation Committee of the British Medical Association[2] yield in 655 cases 375 males to 279 women.[3] Up to the age of twenty, however, the balance is the other way. For this period there is a preponderance of females. The Collective Investigation Records yield 108 males to 120 females.[4] After twenty the males are enormously in excess—viz., 263 to 158.[5] Yet, further, this preponderance of females over males in early life is not uniform at all periods of this first twenty years, but shows a remarkable variation, which is, I think, of considerable significance. Taking periods of five years from one to twenty years, it appears that in the first, one to five years of age, boys preponderate—viz., 5 to 1. At the next quinquennial period, between five and ten years, they become nearly equal—viz., 15 boys to 14 girls. At the next period, eleven to fifteen years of age inclusive, comes a remarkable change. The proportion is suddenly and decisively reversed. During this quinquennial period girls suffer from articular rheumatism in great preponderance — viz., 47 girls to 25 boys, or nearly 2 to 1. After fifteen there is another change; the greater liability of girls gradually declines up to twenty, so that at the close of this period males again preponderate—viz., 76 to 67.[6] The greater proclivity of females, which has been noted up to twenty years of age, is then, in reality, chiefly due to their extraordinary liability to the disease during this particular period of from eleven to fifteen. A strong confirmation of this special susceptibility of young girls to rheumatic arthritis is afforded by the fact that the rule holds with regard to scarlatinal rheumatism. According to the statistics of 652 cases of scarlatina at the South-Western Fever Hospital noted by Dr. Gresswell, to whom I am greatly indebted for calling my attention to the point and for this information, it appears that the incidence of scarlatinal arthritis in girls and boys between three and ten years of age is about equal, just as in ordinary rheumatic arthritis—viz., 4 boys in 176 cases, 5 girls in 179 cases; between ten and fifteen, boys 0 in 42, girls 4 in 71, again in harmony with the results in ordinary rheumatism. The numbers are small, but as far as they go support the special susceptibility of girls to rheumatic arthritis.[7] So that, if these statistics hold good, girls from the age of ten to fifteen are about twice as liable to articular rheumatism as boys, in striking contrast to all other periods, when males preponderate. It will appear later that this greater liability of girls to rheumatic arthritis during this period corresponds with a similar liability to endocarditis and chorea.

The second point, the influence of family predisposition, comes out very clearly in the case of children. The tendency to rheumatism is transmitted as strongly as the tendency to gout. This is more striking than in the case of adults: partly, perhaps, for the reason that the constitutional tendency existing is usually excited into activity before maturity—if it is there, it comes out in childhood; and partly, perhaps, because of the greater ease with which the history of relatives is obtained in the case of children. The parents supply information about their own generation and that of their children; while grown persons, amongst the poor at any rate, know little, and forget much of the generation which preceded them. The estimates of the extent of this transmission vary according to the minuteness of inquiry made, and the evidence allowed as sufficient to establish the existence of the rheumatic state. Sir A. Garrod traced it in about 25 per cent. Dr. A. B. Garrod,[8] taking adults and children together, estimates it at 35 per cent. in rheumatic patients, as compared with 20 per cent. in non-rheumatic patients. These estimates are necessarily under the mark, since they are founded solely upon the occurrence of well-marked attacks of acute articular rheumatism, and chiefly in adults, all evidence afforded by minor attacks or combination of other phases, such as heart disease, chorea, nodules, &c., not being taken into account. Dr. Goodhart,[9] taking children alone, found satisfactory evidence of rheumatic affection in 41 out of 69, or 57 per cent. The influence of hereditary predisposition is well shown by some statistics I have had drawn up, for which I am indebted to the late registrar at the Hospital for Sick Children, Dr. Chaffey. Taking 592 cases of children admitted for diseases of all kinds, both medical and surgical, careful inquiry was made into the family history with regard to acute rheumatism. In 173 there was clear history of acute rheumatism in immediate blood relatives. Of these 173, 38 had developed unmistakable rheumatic affection, equal to 20 per cent. If slighter arthritis, chorea, heart disease, and other less certain manifestations, were admitted as evidence, this proportion would of course be largely increased. Taking now the remaining 319 in whom no history of joint affection in immediate blood relatives could be traced, only 15 developed articular rheumatism, equal to 4·5 per cent. So that with a family history of acute rheumatism in immediate blood relatives the chance of an individual with such hereditary tendency contracting acute articular rheumatism is nearly five times as great as that of an individual who has no such hereditary taint. I may give a few examples to illustrate this influence of family predisposition.

George L——, aged eight, was admitted to Great Ormond-street for advanced mitral disease of the heart. He had had rheumatic fever four years before, followed by two attacks of chorea. His father had rheumatic fever as a child, and died of valvular disease of the heart. His father's sister had rheumatic fever three times. The father's brother had subacute rheumatism.

Take another instance. George H. S——, aged nine years and five months, was admitted to Great Ormond-street with slight articular rheumatism, ushered in by tonsillitis. On examination a loud mitral regurgitant murmur and an aortic regurgitant murmur were found, with great hypertrophy. He must have had endocarditis long before, yet there was no history of any previous joint affection. His mother had had rheumatic fever; his mother's sister rheumatic fever, followed by chorea; another sister of the mother rheumatic fever; the father had rheumatism, but of doubtful nature.

But these instances of family predisposition, of which I could furnish almost any number, are quite eclipsed by a case published by Dr. Goodhart in vol. xxv. of Guy's Hospital Reports, where, "with a rheumatic strain in both father and mother, five out of six children under fifteen—i.e., all but a baby of fourteen months—had either articular rheumatism or heart disease. A boy of fifteen had had rheumatic fever twice, and had mitral regurgitation; the second, a boy of ten, the same; the third, a girl of eight, died of mitral disease; the fourth, a girl, had rheumatic fever after scarlatina, followed by mitral disease; the fifth, a boy of four, was laid by all winter with rheumatism." And Dr. Goodhart mentions the case recorded by Steiner in his "Diseases of Children," which shows this proclivity in a still more extraordinary degree. A rheumatic mother had twelve children, and eleven of them had rheumatism before the age of twenty. Now it occurred to me that this extraordinary tendency of rheumatism to develop in certain families might be due to some special faults of locality or circumstances, but careful inquiry into a number of cases showed me that they arose in very various localities, in members of the family when in different places and under different conditions.

Having thus reviewed broadly the general characteristics of the rheumatism of childhood—viz., the comparative insignificance of the articular affection; the prominence and importance of other phenomena, some of which, such as nodules and chorea, are limited to early life; the tendency of these phenomena to appear independently, scattered singly or in groups through a considerable period, sometimes one, sometimes another, appearing as the primary phase, and the others in varying order of succession; the influence of sex, and of hereditary predisposition,—I pass on to the consideration of the various phases in detail.

[2] Collective Investigation Records, vol. iv., 1888, p. 67.

[3] The statistics collected by Senator from various sources (Ziemssen's Cyclopædia, vol. xvi., p. 18) give somewhat conflicting results; but collectively yield a similar preponderance of males—viz., 1499 to 1425 females.

[4] Collective Investigation Records, vol. iv., p. 67.

[5] The general preponderance of girls over boys is borne out by other statistics. The records of cases of articular rheumatism at the Children's Hospital in Great Ormond-street for twenty-six years give 336 girls to 327 boys. In this case the limit of age is for one period ten years, and for another twelve, so that it excludes a large proportion of cases between eleven and fifteen, when girls most predominate. Dr. Goodhart's statistics give 42 girls to 27 boys (Diseases of Children, p. 510).

[6] Collective Investigation Records, vol. iv., 1888. (Analysis of cases there given.)

[7] The susceptibility appears, however, to be more prolonged than in simple rheumatism. Taking the period ten to twenty-five years, the numbers are: boys, 2 cases of arthritis out of 80 cases of scarlatina; girls, 12 cases out of 118. Yet this is of course, on the whole, a further confirmation of the special liability of young females.

[8] THE LANCET, July 21st, 1888.

[9] Diseases of Children, p. 512.

The first—the arthritis, or articular rheumatism—differs in many notable features from the acute articular rheumatism of later life. I have alluded already to the fact, sufficiently recognised, that the articular affection is usually comparatively slight, and may even be absent altogether. It is, however, I believe, nearly always present at some period of the rheumatic efflorescence. I have now under my care at St. Mary's Hospital, Kate B——, a girl of fifteen, who was admitted with severe chorea. There was no sign of articular affection, or of any other condition suggestive of rheumatism. The heart's sounds were clear and natural. There was no history of any previous rheumatic affection of any kind to be obtained by most careful inquiry, there was no history of rheumatism of any form in the family, and the case was put down as an instance of non-rheumatic chorea. Twelve days after admission, however, she suddenly complained of pain and stiffness of the right wrist and back of the hand, which were found to be slightly but unmistakably swollen and tender. The arthritis subsided in forty-eight hours. Three days later a similar pain and tenderness of the right wrist and hand developed, subsiding as quickly as the first. It would certainly have escaped serious notice had not my house physician been on the watch for the possible appearance of some rheumatic sign. Such cases give the key to many instances of unexplained heart disease and chorea.[10] The arthritis is, indeed, less extreme in every way; there is less swelling and tenderness and pain. It is a comparatively rare thing to see a little child lying still and motionless, bound hand and foot, not daring to move or turn for fear of pain—the condition so characteristic of the disease in an adult. There is often merely a little pain and a little stiffness and tenderness, limited perhaps to a single joint or set of joints, attracting little notice, soon forgotten, often overlooked altogether, and constantly never severe enough for the doctor's aid to be called in. It is subsequent heart disease which sends them to hospital. Often when medical advice is sought the ailment passes for nothing but a slight feverish attack. Such cases are constantly described as "low fever." And, as the inflammatory condition is slight, so many signs met with in severe rheumatic arthritis are wanting. The profuse sweating, the intensely and sour-smelling perspiration, which is one of the typical symptoms in the acute rheumatism of adults, is rarely seen in that of children, the rarity being in inverse proportion to age. It only begins to appear with more severe joint affection as age advances, and is rarely extreme before puberty. Other conditions, again, associated with the profuse sweating are also wanting. The sudamina and miliary eruption which so often accompany it in adults are rarely if ever seen in children. And as the inflammation of joint structures is slight, so also is the pyrexia. The temperature seldom runs high; and this is the more remarkable because, as a rule, it rises readily in children—goes up suddenly for very slight cause to 104° or 105°, perhaps from such trivial disturbance as a dose of irritant food or a passing chill. Moreover, many more structures are involved, so that it must be chiefly arthritis which raises temperature. Yet here in this eminently pyrexial affection it seldom rises in children above 101° or 102°; 103° and 104° are comparatively uncommon, and such rise is usually of short duration. Look at the case of S——, for instance, given in Series VIII. As you will see, during his stay in hospital from December, 1887, to March, 1888, a period of four months, he had articular rheumatism, eruption of nodules, endocarditis, and tonsillitis, in addition to chorea and erythema, and died of the disease at last. Yet his temperature was chiefly subnormal, rising only once to 101° for a single night, and once to 100° for a like period. Take, again, the case of John T——, given in Series X. He was in hospital for nine months almost continuously. He had, amongst other rheumatic phases, during his stay, arthritis, endocarditis, pericarditis, pleurisy, a pulse of 120 to 130, and the disease steadily progressed to a fatal ending. He died of recurrent pericarditis. Yet his highest temperature was 101·5°; for two short periods only did it reach 101°; for the rest it rarely reached 100°. Hyperpyrexia, which occurs now and again in the acute rheumatism of adults, and is in them so grave and dangerous, often absolutely uncontrollable, is rare in childhood. I have never seen a case of fatal hyperpyrexia in a child, and I can find no instance in which the temperature has shown a persistent tendency to run up rapidly beyond control to a fatal height. Dr. Fagge observed[11] that in fourteen cases of fatal rheumatic hyperpyrexia at Guy's Hospital all but two were over twenty years of age, and these were a boy of nineteen and a girl of eighteen. In Dr. Wilson Fox's[12] twenty-two cases of rheumatic hyperpyrexia the youngest was a girl of seventeen. Dr. Barlow[13] mentions a case of fatal rheumatic hyperpyrexia in a girl of thirteen, but he does not give the range of temperature, or state that hyperpyrexia was the direct cause of death by running up uncontrollably to a fatal height.

The slight arthritis of childhood often assumes a misleading aspect, and it is sometimes difficult to distinguish it from other ailments involving pain and tenderness of parts. Their recognition is of immense importance, since a deadly endocarditis or pericarditis may be insidiously developing concurrently. I give one or two clinical examples of errors of the kind.

M. T——, a girl of three, was observed to be slightly feverish and ailing on Feb. 10th. On the 12th the great toe of one foot was found to be swollen and tender. On the 13th she was brought to me. The child had a white and dry tongue; pulse 120; temperature 103°. The swelling and tenderness of the toe were supposed to be due to chilblain. No other joints were affected, but the pulse and temperature suggested articular rheumatism. The heart sounds were clear. Two days later (Feb. 15th) both feet and both ankles were slightly stiff, tender, and swollen, and movement of them was painful; temperature 102°. On examining the heart, a soft murmur was audible at the apex. The following day the pain and stiffness of joints were almost gone; temperature 99°. The cardiac murmur had become full and blowing. This murmur persisted for many weeks, and then gradually disappeared. The father's sister and her child had both had acute rheumatism, and the former pericarditis and mitral valvulitis also.

Take another case I saw in consultation a few years ago—a little girl four years old. The child had had for a week or ten days difficulty in putting the right heel down, and was supposed to have incipient talipes, for which she had been galvanised steadily without result. The difficulty in putting down the heel had subsided, but the child still showed the greatest disinclination to walk. I could find no deformity or distortion, but I found both knees unmistakably swollen and tender, especially the left. The temperature was 100°. It turned out, too, upon inquiry, that the girl had suffered from pains and stiffness in the knees and ankles from time to time for the previous six months; and further, the mother had had rheumatic fever. I had no doubt that the joint trouble was rheumatic. Under salicin and citrate of potash all tenderness and stiffness disappeared, and in a day or two the child was running about as usual.

Here is another example. R. C——, a boy five years old, was brought to me because he had suddenly become unable to walk when he got out of bed in the morning. He was most reluctant to attempt it, but when made to do so he went on tiptoe with bent knees; any attempt to straighten the knees gave pain. The ham tendons were rigid and very tender. There was no swelling. The temperature was 103°. The heart's action was much excited, but there was no bruit. It appeared that the mother had had rheumatic fever and acute pericarditis, and examination showed a loud mitral murmur. Salicin was given freely, and in twenty-four hours the stiffness and tenderness had so far declined that the child was able to walk, and the temperature had gone down to 100°.

Another example which I think throws great light upon cases of valvular disease of the heart of unexplained origin is that of Ernest C——, a boy who was admitted into the Children's Hospital with a loud mitral regurgitant murmur, heaving diffused impulse, bulging præcordia, and other signs of hypertrophy and dilatation. He had never been observed to have any articular affection or chorea, or other sign of rheumatism. There was no family history of rheumatism. Three weeks after admission he suddenly complained of pain in one knee, and could not bear to straighten it or use it in walking. The tendons on each side of the popliteal space and its lower border were found tense, swollen, rigid, and extremely tender. There was a slight rise of temperature. In view of the mitral disease, there could be little doubt that the affection of the knee was rheumatic, and that the valvular disease was likewise the

[10] This has subsequently received further illustration and confirmation. Since the above was written, and three weeks after the occurrence of the transient arthritis recurred, pericarditis has supervened. The chorea has disappeared, and there is no articular affection.

[11] Principles and Practice of Medicine, vol. ii., p. 546

[12] Treatment of Hyperpyrexia, p. 71—77.

[13] Brit. Med. Jour., Sept. 15th, 1883, p. 513

result of rheumatic endocarditis, possibly accompanied by some slight arthritis which had escaped with little notice and long been forgotten. This affection of the tendons of the hamstring muscles—the biceps, semi-tendinosus, semi-membranosus, gracilis, and sartorius,—and walking with bent knees on the tips of the toe to avoid tension of them, is, I think, very characteristic. I had seen it now many times in rheumatic children, and it is analogous to the stiff neck and torticollis which is sometimes in like manner the first or sole feature of a rheumatic attack. Conversely, other conditions are often mistaken for articular rheumatism. Essential paralysis in its early stage, when there is great hyperæsthesia, is one of them. The chief points of distinction are that in essential paralysis there is extreme flaccidity of muscle, the limb falling limp and loose, drooping of the toes, and the fact that the tenderness in general is not confined to joints and tendons. Later the disappearance of faradic contractility and tendon reflex would be decisive. I have, however, now under my care at Great Ormond-street a boy who had considerable rigidity about the knees, the extension of which gave great pain. The tenderness was, however, general, the toes drooped, and faradic contractility had almost disappeared in the affected muscles.

Another condition which is liable to be mistaken for slight rheumatic arthritis is syphilitic disease of the ends of the long bones. In this there are tenderness and swelling from accompanying periostitis, and there may be even some arthritis, the limbs being kept motionless from pain on movement. It may be distinguished by the presence of other signs of congenital syphilis, and by the history possibly; but the age at which it occurs—viz., in the first few months after birth—is almost diagnostic. Rheumatic arthritis is almost, if not quite, unknown in early infancy. I have never seen it under two years, although Dr. Goodhart has noted some doubtful cases in children of two or three months, and Henoch records one at ten months. Senator has collected several cases in infants, one at four weeks old.

Another condition which has been mistakenly regarded as rheumatic is the tenderness, swelling, and immobility of the limbs which arise in infantile scurvy—the so-called scurvy rickets. This is to be distinguished by the swellings being limited usually to the shafts of the long bones, although I have once seen a periosteal swelling on the malar bone and swelling and tenderness of the joints. Such, however, are rare exceptions. Other diagnostic points are the existence of spongy gums, subcutaneous hæmorrhages, and albuminuria. And then infantile scurvy is limited to the bottle-feeding period—i.e., the first eighteen months or two years, when articular rheumatism is almost unknown. The swelling of the wrists in tetany, the arthritic hæmorrhages of hæmophilia, the joint trouble of strumous disease, and pyæmic arthritis are all conditions liable to be mistaken for articular rheumatism. I have only time to call attention to them as possible sources of error.

ABSTRACT OF

The Lumleian Lectures

ON

ENTERIC FEVER.

Delivered at the Royal College of Physicians, April, 1889,

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LECTURE II.

IN my former lecture I discussed the questions of contagion and of specific character as applied to enteric fever, I advanced objections against the germ theory of disease, challenged proof of the statement that enteric fever can be distinguished from the other common inflammatory affections, and denied that it possessed any contagious properties. I propose in the present lecture to advance such further evidence of the truth of my argument as may be obtained by tracing the relationship between enteric fever and other diseases.

The intimate relationship between ague and enteric fever has been forced upon the attention of every practical field officer from the earliest times, and a great difficulty has always arisen in classifying these and other related diseases. In the American war cases occurred the symptoms of which would indicate rather a combination of diseases than any one disease. Speaking of the causes of ague, Dr. Maclean, in Reynolds's System of Medicine, says: "I desire to express my entire dissent from the doctrine that specific agues are the result of suppressed cutaneous secretion under sudden impressions of cold. If it were so, we should have agues constantly occurring in temperate climates during the summer months in places where no miasm exists, which is contrary to all experience." In answer to this statement, made in 1866, I must adduce the fact that ague still exists in London, the climate of which is both temperate and, in comparison with malarial districts, free from miasm. During the eight years 1871 to 1879 I had forty-four cases of indigenous ague under my care. Their ages ranged from twelve to sixty-one, the average being about thirty. Half were females, and the commonest variety of the disease was tertian. All but seven cases (which came from Essex and Kent) were resident in the low-lying districts around the hospital, the same which, with one or two exceptions, furnished my cases of enteric fever. Of these cases, twenty-eight developed the disease in London; they were mostly women, who, owing to abiding continually at home, were probably thus rendered more liable to the disease. It is clear, then, that we still have ague in London, but whether it be due to miasm in the sense in which Lancisi and his followers use the word, I will leave others to speculate. I know nothing of an aerial poison emanating from an open marsh. The conception was one worthy of the eminent countryman of Dante, and it has proved to be so suitable to the credulity of the medical mind, that for the best part of two centuries, and up to the present time, it has remained the unshaken pivot upon which our ideas of intermittent fever have turned. Nothing doubtless has retarded the advance of medicine so much as the translation of our ignorance into a subtle phraseology; and so long as it is done, so long will it remain an inexact science. What is the cause of ague? Accepting the hypothesis of Lancisi, the eighteenth and nineteenth centuries have told us over and over again, "miasm." What is miasm? We do not know; everybody but a medical man who is brought up to the manner of it would see the absurdity of this. In this particular instance we have been so long taught to look to the air that we can hardly bend our gaze to the ground, and yet, if the word miasm had been applied to terrestrial instead of aerial impurity, we should long ago have appreciated the truth that it is impure drinking-water, and not a mere aerial exhalation which is the predisposing cause of malarial fevers.

Several of the reporters of the cases which occurred during the American war refer to impurity in the drinking-water as occasioning a predisposition to malarial affections, the maximum and minimum of the prevalence of the fever corresponding in time with the maximum and minimum of organic impurity in the water-supply. To turn back to my own cases, one of my patients stated that he and three of his fellow-workmen contracted ague by drinking brackish well water; and the severest case of intermittent fever associated with enteric symptoms that I have ever witnessed was that of a strong healthy man about thirty-five years of age, a master builder, whose attack appeared to be due to swallowing a mouthful of sewer water while bathing at sea. After the aguish paroxysms had declined, enteric symptoms became prominent, and Dr. Murchison, who saw the case at this time, declared it to be enteric fever.

Turning to the clinical history of the two diseases, we shall not fail to notice a complete similarity in the early symptoms in a great many cases. According to Dr. Maclean, the premonitory symptoms of ague are usually nausea, anorexia, muscular pains in the back and lower limbs, with usually a slight feeling of chilliness, soon passing into trifling heat, which may recur for several days before a regular paroxysm of shivering fever with headache and sweating sets in. Referring to my cases of enteric fever, I find cold chills followed by perspiration, pains in the arms and legs, and headache recorded as initiatory symptoms in thirty-two out of my 232 cases. Thus allied in origin and onset, the relationship hereafter becomes closer and closer until the intermittent affection is merged in the continued fever, a mild form of remittent forming the link.

But even through the course of an ordinary attack of enteric fever we can still trace the intermittent character in

the daily rise and fall of temperature; indeed, I have occasionally noticed this feature after the temperature has finally fallen to a normal and subnormal state. The conversion of the paroxysm into a continuous febrile vibration is capable of illustration in many ways. Thus, for example, a person who has taken an intoxicating dose of alcohol for the first time displays (let me assume) hilarity; but frequent repetition of the dose will so accustom him to its use that these fits of excitement will be scarcely observable, for they will now constitute a continuous state of quieter excitement. So it is with ague: if the fit occur but seldom, its features remain strongly marked; but by frequent repetition of the morbid action they are softened into those which constitute the remittent variety, and these at last become but slightly defined or scarcely recognisable, and the disease thus passes into the continued form. It would appear, therefore, that the distinction is one of degree and of natural progress. In the ague fit we have a sudden and intense congestion of the mucous membrane, and when the cold stage is severe and prolonged often resulting in intestinal hæmorrhage and hæmaturia. But this condition is not long maintained, and in the intermission is more or less completely relieved. The congestion of enteric fever, on the other hand, is a continuous, and, so to speak, a chronic one, and it is necessarily less intense, otherwise the patient would not survive from day to day and week to week. Excepting, then, in the circumstances that in ague the functions of the skin are not continuously overpowered, of which the intermission is the proof, and that in enteric fever we have an enteric lesion consequent upon the continual congestion, it is quite impossible to recognise a distinction between malarial and enteric fevers.

By what process is intermittent fever thus converted into the continued form? An attentive study of the conditions which exist in the ague fit show that the shivering is due to the cutaneous impression of cold; the intense muscular vibration and rapid breathing would normally produce an increase both of heat and of carbonic acid; the result, in fact, being identical with that following the arrest of function of the skin. It is difficult to explain the object of this, for if any loss of internal temperature preceded the paroxysm we should see the advantage of the involuntary muscular movements, but we have no evidence of a loss of internal heat preceding the fit. As the temperature of the surface rises, the sensation of cold gives way to one of heat, the shivering ceases, the spleen becomes swollen, and the congestion of the mucous membranes is intense, so that even melæna may occur. After an interval, the blood returns to the skin and becomes cooled by an abundant and prolonged exhalation of sweat, the body returning to the normal state. But the patient may succumb to the violent congestion, and post-mortem evidence of it will be everywhere visible, while, microscopically, wreckages of the blood and blocking of the minute vessels of the parenchymatous organs will be found. But while a certain number of the healthiest recover from an ordinary paroxysm of intermittent fever, a larger number only partially recover from this internal congestion, and this remnant of the primary paroxysm will prove the departure of morbid conditions: if the congestion have fallen heavily upon the intestines, diarrhœa or dysentery may result; if upon the lungs, bronchitis or pneumonia; if upon both lungs and bowels, both may supervene, converting the intermittent into a continued fever. In the History of the American War eleven cases of typhoid fever are given in which aguish symptoms preceded its development, and the chills which occurred in my own cases demonstrate the same antecedent conditions here.

The necropsies performed in cases of intermittent fever showed that the fatal result was due to congestion of the internal organs, but not always of the same organs, no one being more liable to injury than another; and similar evidence was not wanting in my cases of enteric fever, epistaxis being frequent. The occasional relapses which are often witnessed in enteric fever, the critical outburst of sweat, or the occasional quotidian or tertian tendency to perspiration, may be regarded as additional indications of the relationship which I am endeavouring to substantiate. The arrest of the functions of the skin is enough to account for the pyrexia, and when perspirations do not occur the only relief to the fever is the outpouring of fluid or of blood from the intestinal canal. Thus recognising the more or less complete arrest of the cutaneous functions as the cause of the pyrexia in both intermittent and continued fevers, we shall be at no loss to find cause for the resultant morbid changes. At first the functions of the liver and spleen are stimulated, but when the temperature rises to about 104° F. there is a diminution or even arrest of function. The intestines and lungs become laden with blood, and the most vascular part of the former, the lymphatic tissue, shares in the congestion. The whole mucous membrane is swollen and softened by the actual exudation of lymph, and irritated by the passage of imperfectly digested fæcal matters over its surface. Under conditions so favourable for morbid action, the delicate intestinal glandulæ become excoriated and ulcerated, if indeed they have not already become sloughy from the prolonged congestion to which they have been subjected. Further evidence that the congestion is a common one, and independent of a specific infection of the intestinal glandulæ, is to be found in the lungs, which in the great majority of cases show signs of affection, from the faintest signs of a few rhonchi &c., to profuse bronchitis or fatal pneumonia; and I have elsewhere used the term "pneumon-enteritis" to denote the intimacy of this association. The experience of the War of the Rebellion agrees precisely with my own with regard to this association; of my 232 cases, forty-seven, or 20 per cent., had severe pulmonary complication, and five at least died from this cause. Corroborative evidence of this association of lung inflammation with enteric fever is found in many cases of pneumonia, in which we may find the intestinal glandulæ more or less involved in inflammatory action—cases in which, from the absence of symptoms, intestinal complications were never suspected. The consideration of this general relationship between intermittent and enteric fevers enables us to appreciate that closer relationship implied by the term "typho-malarial" generally adopted by the medical officers of the American war. Reviewing their records of the post-mortem examinations of the fatal cases of typho-malarial fever, the evidence of the identity of this with enteric fever is conclusive and requires no comment.

Remittent fever is the necessary link between intermittent and continued fevers. It may be simply regarded as quotidian ague, in which the pyrexia declines so slowly that a normal temperature is not reached before the accession of another exacerbation. The declensions or remissions of the fever are associated with, and undoubtedly dependent upon, a partial and insufficient restoration of the sudoriparous function, but now amounting to a sensible perspiration; and they are often so imperfectly marked that a slight decline of the thermometer is the only indication of them; the fever has, in fact, become continuous, and there is nothing in the general condition to distinguish it from enteric fever, which, as we are aware, presents in almost every case a daily remission. In many cases the remission is attended by a slight sensible perspiration; in a few an apyrexial interval—a distinct intermission—occurs, with a more or less copious outbreak of sweat. In their relapses the features of remittent and enteric fevers are identical, and in their morbid anatomy the two fevers are indistinguishable.

I have now traced the relationship of enteric fever to the malarial fevers, or, in other words, that it is one of the most prominent results (pneumonia being the other) of that congestion which, when it is unrelieved, passes from the intermittent into the continued fever. It remains for me to show, in a still larger class of cases—viz., those of simple diarrhœa and dysentery, in which the internal congestion is relieved by a copious exudation from the intestinal mucous membrane,—how the lesions characteristic of enteric fever may be developed.

The history of a case of simple apyrexial diarrhœa will repay a minute attention, and for the illustration I will use a personal experience. I was suddenly attacked with diarrhœa one morning in January last, passing unexpectedly a very copious motion, dark brown, partly solid and partly liquid, with much gas, in which I recognised the odour of a post-mortem examination which I had inspected for about an hour and a half three days before; after five hours there was another very free action, yellow and bilious. The next day there was very active bilious diarrhœa, eight stools being passed. On the fourth day, and continuing till the eighth, there were five or six liquid stools a day, of the colour and consistence of pea-soup, but becoming almost colourless towards the end of the time. The bile had almost completely disappeared from the stools, and I thought of the possibility of drifting into enteric fever. Next day, however, the bile reappeared, the motions began to have consistency,

and, as the improvement was not interrupted, I was well again in the course of two or three days. During the attack the pulse and temperature were normal, the tongue only a little furred at the root, the complexion clear, the appetite fair, but the taste disturbed; the only discomfort arose from abdominal distension, and towards the end some scalding and tenesmus. On looking for the cause of this attack, I could find only three possible factors—a little seakale eaten sixty hours before, a fresh egg eaten forty-eight hours before, and the post-mortem odour inspired three days before; and these three sulphur-containing matters—the seakale, the egg, and the sulphuretted hydrogen,—neither of which is well tolerated in my somatic laboratory, had found their way into it and produced the results which I have described. I think it must have been in the liver where the difficulty induced by these agents arose. The increased flow of bile at the outset might be accounted for by the emptying of the gall-bladder by reflex excitation; but the subsequent partial suppression of bile must be attributed to an impression upon the hepatic secreting cells, at first of a stimulant and afterwards of a depressant nature. Between the fourth and the eighth day it was impossible to distinguish the dejecta from those of a typical case of enteric fever, there being the same absence of bile and the same pea-soupy character. The irritation caused by the passage of these imperfectly preserved stools is such as, if sufficiently prolonged, might be expected to set up inflammation in the intestinal glandulæ.

THE TREATMENT OF DISEASE OF THE SPINAL COLUMN.[1]

By WILLIAM JAMES FLEMING, M.D.,
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THE two great divisions of disease of the spinal column—Pott's curvature and lateral curvature—are fairly distinct from each other, both in symptoms and pathology. In each, however, we have all the structures which maintain the shape of the spine more or less affected, although in different degrees. In Pott's curvature the bodies of the vertebræ are most seriously involved; in lateral curvature the soft parts, and especially the ligaments and muscles, are first and often solely diseased. Let us not wander into the moot questions as to which structure is first attacked, and so on. Nature is not so precise in her methods as many pathologists would like her to be, and often arrives at the same end by different roads. Some general conclusions may, however, be formulated in both classes of cases.

Essentially the distortion is a yielding to pressure—in the one case of the osseous tissue, in the other of the ligamentous. This in both is preceded by softening, generally due to local malnutrition. This seems to be the important fact to grasp in considering any plan of treatment. We must, in short, aim at removing the pressure and improving the nutrition. To remove the pressure is a mechanical problem, and to its solution I propose chiefly to direct attention; but it must be remembered throughout that the removal of the pressure is the first and most important step towards improving the nutrition, and the second indication to this end—rest—is also obtained at the same time, and by the same means. I was so impressed by these considerations, and the astonishing effects of constant elastic pressure upon living tissue, as shown by Professor Dittel of Vienna,[2] who proposed to substitute constriction by elastic bands for the knife in many operations, and even succeeded in this way in amputating limbs, that in 1883 I devised an inflating indiarubber collar for disease of the upper part of the spine, and in May, 1884, published in the *Glasgow Medical Journal* a description with cases. This apparatus has, I may say, been uniformly successful in suitable cases, but unfortunately its cost and liability to all the diseases of indiarubber, which generally make frequent repair and early renewal necessary, render it unsuitable for hospital work. Encouraged by the result of this application of the principle of continuous elastic extension of the diseased portion of the vertebræ, and of course recognising that in Sayre's method the benefit is from continuous but non-elastic support, I attempted, in November, 1886, to apply the same principle to a curve in the dorsal region by extending the whole body by weights dragging at the same time from the head and axilla and the feet. Such relief was afforded that I continued modifying the apparatus, which at first was very unwieldy and difficult to manage, and at this juncture received from Mr. Hilliard, of this city, the valuable suggestions of taking the downward extension from a broad pelvic band by a bandage fixed over the sacrum and of substituting an elastic cord for the weight attached to the head. As to Mr. Hilliard's share in the invention of the apparatus, and the patent he has taken out in regard to it, I will in its proper place endeavour to state the exact facts. The next step was to give up the axillary bands, as they were found quite unnecessary, and prevented the patient turning in bed, one of the important points in the treatment. During this time the extension from the head was obtained by the head-piece used in Sayre's suspension; and this is figured in the short account of the method published in the *Glasgow Medical Journal* for November, 1887. Soon afterwards Mr. Parry (then house surgeon in the Sick Children's Hospital) showed me an arrangement for fixing the head in extension, which dispensed with the strap round the chin, and a modification of it made in tin was used for some time, until the cutler in the Glasgow Royal Infirmary copied it in leather and webbing, which was found much better, and which is now the form employed. Some of these are now made with the posterior strap fitted with a buckle so as to regulate its length. I have given this history of the evolution of the design because I was very much surprised to find that Mr. Hilliard had patented it.

As will be seen from the above, it is not to claim any priority that I wish to put the facts on record, but because of my objection to the protection by patent of any surgical appliance. In a letter from Mr. Hilliard protesting against some remarks made by me at the last meeting of the Branch Association in the Glasgow Royal Infirmary, he claims as the novelties—"(1) introducing a spring (rubber or spiral) into the line of traction; (2) making the line of traction single—i.e., between two single points; and (3) by providing a swivel to allow of the patient revolving &c." In regard to the first of these—the spring—I do not see how he can claim this in the face of the plate and description in Heather Bigg's Orthopraxy (page 255, Fig. 123, third edition, 1877), where the head spring is not only drawn, but where the principle of resilient traction is clearly described in these words: "The only restraint exercised being by the elastic cords, which, although allowing freedom of motion, exercise a constant retractile force." (Page 256, top.) In regard to the second, which really means making the extension from over the sacrum, I have not yet found a record of its use, but whether a modification of our old friend the T bandage constitutes a patent I leave for others to decide. As to the swivel, as single cords are used, it is quite unnecessary. I regret having to make these remarks, as I have above and elsewhere expressed my indebtedness to Mr. Hilliard for valuable suggestions, but I cannot help feeling that it was, to say the least of it, unsuitable to patent the device.

In the form in which it is now used, the apparatus consists of a head-piece composed of two straps: one of leather, extending from a point just above and in front of the ear, round the back of the head below the occipital protuberance to a corresponding point on the other side; another of webbing, with a buckle, fixed to the ends of the posterior strap at such an angle as will permit it to pass straight across the brow just above the orbital prominences. Another strap extends loosely from about the point of junction of the other two to the corresponding point on the other side, and from the centre of this the extension is made. The exact position of this strap has to be varied to suit differently shaped heads. (Fig. 1.) It is well known that a bandage carried round the back of the head just below the occipital protuberance, forwards just above the ears and across the forehead, will not slip up, and gives a fixed point from which traction in an upward direction may be made. The arrangement is simply a modification of this. It requires to be accurately fixed to each head, and when to be used in bed is best made for each patient; but if for suspension only, by introducing a buckle into the posterior strap it can be made to fit almost any head. The buckle is uncomfortable to lie upon. This head-piece is connected by

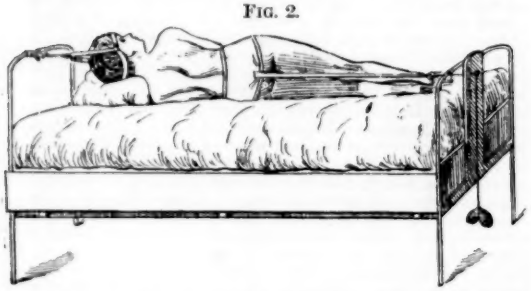
[1] Read before the Medico-Chirurgical Society, March 22nd, 1889.
[2] Translated in London Med. Record, Dec. 3rd, 1873, et seq.

an elastic cord to the top of the bed, so that it is level when the patient's head is upon a low pillow. The actual extension is made from the pelvis. Round this a broad towel is tightly pinned or sewn, and, in the middle line behind, has firmly attached to it the end of a piece of strong calico bandage. The other end of this is tied, at about the level

FIG. 1.

of the feet, to the cord passing over the common extension pulley at the end of the bed, and a weight, proportioned to the body weight of the patient, put on. The bed is covered with a mackintosh sheet, freely dusted with powdered boracic acid, and the arrangement is complete. (Fig. 2.) It will be

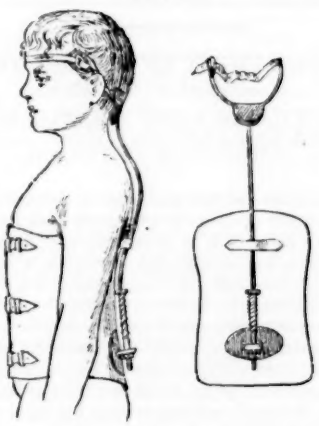
FIG. 2.



seen that, while the whole spinal column is thus acted upon by the extensile force, the arms and legs are quite free, and the patient can turn round and lie on the back, face, or either side at will, without for a moment relaxing the extension. The object of the smooth vulcanised rubber sheet is to reduce the great friction between the body and the rough surface of the sheet, which it was found entailed a considerable increase of weight. Weights of from 4 lb. to 20 lb. have been employed, but about 6 lb. for a child and 12 lb. for an adult are usually best. It must be borne in mind that an elastic tension constantly exercised upon living tissue has an effect altogether disproportionate to what one would primarily expect from the amount of actual force employed; so that very slight but continuous traction is what we aim at. Recently, in some cases, it has been found an advantage to bring the end of the T bandage loosely forward to be fixed by one or two legs over the pubes, the extension being taken from the centre of the bight so formed. By either of these arrangements the movement of every joint in the body, except the vertebral joints, are left free. The patient can turn over and over, lie on the back, face, or sides at pleasure, yet never relax for a moment the gentle extension of the spine. Massage, electricity, and gymnastic movements can be carried out, and talking and eating are in no way interfered with.

Before detailing some of the well-marked results obtained, I wish to say a few words as to the class of cases to which the plan is applicable. In the first place, I think I may say all true cases of Pott's disease in which ankylosis is not already firmly established are likely to benefit by the treatment. It is not so clear, nor do I affirm it to be the case, that all lateral or lateral rotating curves are suitably dealt with in this way; yet undoubtedly many are. My idea is that where there is tenderness and probably a slightly inflamed condition of the ligaments and cartilages, as we so often find, a short period of complete rest to the ligaments and freedom from pressure for the cartilages causes this irritable condition to pass, and gives the start to recuperative processes. In these cases it will probably be found best to keep the patient upon the stretch continuously for not longer than a fortnight, and then to let the apparatus be removed and the patient encouraged to take exercise of the proper kind during an increasingly long period of the day, always sleeping in extension. This should be supplemented from the first by massage, electricity, and gymnastic exercises, many of which latter can be performed in the supine position. In cases of caries, actual or threatened, I advocate after extension; for the lower curves, a poroplastic jacket to be worn during the day and extension at night, for months, if not years. In cases where the disease is above the middle cervical vertebræ, I find Hilliard's artificial spine an admirable contrivance. Fig. 3 clearly shows its construction. It will

FIG. 3.



be seen that he has adapted to it the head-piece which I have just described, so that it is scarcely observable.

The cases which I have had under my care speak for themselves as to the merits of the treatment. To originality I lay no claim. Apparatus presenting each and all of the features of this one have been tried during hundreds of years, but I believe that it combines in itself all the good features of many others, and excels them all in simplicity of construction and management and in smallness of cost. If there is any original feature in the arrangement, it is the head-piece, for the idea of which I have to thank Mr. Parry. We are at the present moment hearing much of the suspension treatment of locomotor ataxy, and I feel sure that the head-piece here described will be found specially suitable for the purpose. But, further, may I suggest to my medical friends that if extension by suspension for a few minutes does such good, is it not possible that continous extension in these cases may prove better still? Out of forty cases which I have treated by this method, I will give short notes of a few which derived exceptional benefit.[3]

CASE 1.—J. C——, aged thirty-two, was sent to me by Dr. Macmillan of Tighnabruich, on Aug. 6th, 1888. The patient had suffered for about four years from his back. At first this was treated for lumbago, and then, as the symptoms became more pronounced, for locomotor ataxy. The locomotive weakness became more and more marked, until at the beginning of the year 1888 there was complete paralysis of motion and sensation in both the lower extremities. In this state he remained until seen by Dr. Macmillan in the summer of that year, who detected Pott's curvature in

[3] Cases 1, 2, 3, and 5 were shown.

the lower dorsal region. He fitted a plaster jacket, with which the patient improved generally; but when I saw him in August he was still absolutely paraplegic. He was put up in his own house on extension, from which he derived immediate relief, and in four days was able, for the first time for months, to move his toes. This treatment was continued, along with rubbing, for seven weeks, at the end of which time he could freely raise his legs in bed, and when supported walk a step or two. Soon afterwards he had a carefully fitted poroplastic jacket put on, which he wears by day, continuing the extension at night. He is now able to go about and attend to his business. As he is a heavy man, weights at one time amounting to nearly 20 lb. were used.

CASE 2.—Mrs. C——, aged twenty-one, was seen by me on Dec. 3rd, 1886. She had acute atlanto-axial caries of three months' duration, which was treated with actual cautery and extension. By May 27th she was able to walk about for some time with the pneumatic collar, which on this date was replaced by Hilliard's pelvic jurymast. On Aug. 2nd she reported herself as being very well, but still required to wear Hilliard's pelvic jurymast. She reported herself lately as quite well.

CASE 3.—J. K——, aged thirteen, seen on May 27th, 1887. This patient had well-marked acute high cervical caries of ten weeks' duration. By June 14th she was able to sit up in bed without holding her head with her hands. On July 2nd she was free from pain, but a distinct depression could be felt over the atlanto-axial joint, and the movements of the head were rather less extensive than normal. She was dismissed wearing a pneumatic collar. On Aug. 26th she reported herself as being very well, but was sill wearing the collar. She was readmitted on Nov. 4th, with a return of the former pain, though not so severe. She was kept on complete extension for twenty-four days. For thirty-seven days longer extension was employed only during the day, and on Jan. 22nd, 1888, she was sent to the Helensburgh Convalescent Home. She was only out a month, and again, on her return, recovered very rapidly on extension, but was kept extended this time for two months, and on dismissal was provided with a Hilliard's artificial spine. She reported herself again on Dec. 2nd, and again on March 17th, 1889, being perfectly well, and able to perform her work with ease and with free movement of the head.

CASE 4.—C. P——, aged ten, came to me on Nov. 18th, 1887, with a history of injury the previous winter. There were prominence and tenderness in the lower dorsal region, with a small abscess, probably spinal. Pain existed in the erect and sometimes in the recumbent position. Extension was employed for nine weeks, and was afterwards removed at night. During this time the abscess had been quiescent—if anything, diminishing in size. It was aspirated on Feb 4th, and a small quantity of pus extracted. It never returned. She was dismissed on March 10th—i.e., nearly four months after admission. She reported herself up to April 25th as quite well. Of course it cannot be certain that the abscess was more than a superficial one, but from its character and situation it was at least very suggestive of a spinal association.

CASE 5.—M. T——, aged eight, was seen on Oct. 23rd, 1888. She had marked antero-posterior curvature in the cervico-dorsal region. There was a sinus in the neck, which had dried up and opened afresh several times. Extension was employed on admission, and continued night and day until Jan. 24th, 1889, when she was allowed up during the day, wearing Hilliard's artificial spine, but slept at night on extension. The pain and weakness she complained of on admission had almost entirely disappeared after six weeks' extension, and on her dismissal on February 15th she was well and strong, with the exception of the deformity, which, though improved, is still well marked.

WORKHOUSE INFIRMARY NURSING ASSOCIATION.—The ninth annual report, just circulated, begins with an encouraging statement. By the generous gift of £100 the sphere of work has been substantially enlarged. The statement of training during 1888 shows a marked advance on that of last year. Thus: Remaining on Jan. 1st, 16; admitted during the year, 28; total, 44—resigned or discharged as unsuitable, 5; completed their training, 19; total, 24. Remaining in training, Dec. 31st last, 22. Twenty boards of guardians (four more than last year) subscribed to the funds of the Association. The cash account showed a balance in hand of £34 13*s.* 3*d.*

RACHILYSIS: A METHOD OF TREATING THE SEVERER FORMS OF LATERAL CURVATURE.

BY RICHARD BARWELL, F.R.C.S.,
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THE three stages of lateral curvature of the spine may be defined clinically as follows. The early part of the first stage is merely a position which the patient can rectify by voluntary effort; but if it be long maintained with entire or almost entire persistency, it can no longer be so straightened, but requires some external aid—recumbency, pressure with the surgeon's hands, or suspension. The second stage is that in which the above manœuvres, though they may more or less benefit, will not eliminate the curve. The third stage is that in which those positions or forces produce very little or no amelioration. The anatomical conditions corresponding to these clinical phenomena are—First stage: earliest part none; later part, shortening (hardly yet contracture) of muscles in the concavity of the curve. Second stage: thinning of intervertebral substances on the concave side, and shortening of that edge of anterior and posterior common ligaments. Third stage: superadded to the above changes, the vertebral bodies are also thinner on the concave than on the convex side (wedge-shaped vertebræ).

From this very condensed summary it is plainly deducible that the first stage of lateral curvature is very much more

FIG. 1.

amenable to treatment than the second, and, *a fortiori*, than the third; yet the sort of despair that is so frequently expressed, and by none more frequently than by those who use those dreadful things called spinal supports,[1] as to curing cases in the second stage is not justified by pathological anatomy. We have but to act in regard to the spinal column as we do with joints, the ligaments of which have become shortened. There is no physiological bar to such treatment, the difficulty is merely mechanical. Nor does that hopelessness at all coincide with the results of my practice. I certainly have cured many cases in the second stage by my dorso-lumbar and rotation bandages combined with those other means of unbending and untwisting the spine described in this journal[2] and elsewhere, and in the different editions of my work on "Spinal Curvature," commencing more than thirty years ago. Yet in spite of this large measure of success I am bound to acknowledge that the cure by this means is slow, and that not every case is amenable to such gentle influences. Considerably shortened muscles and contracted

[1] At the beginning of this month Mr. Adams reiterated his frequently expressed conviction that nothing could affect these changes (Proceedings of the Royal Medical and Chirurgical Society, April, 1889).

[2] THE LANCET, July 9th and Aug. 13th, 1887.

ligaments may be advantageously stretched by more potent means, which nearly two years ago I began tentatively, and which I have employed in its present perfected form for more than a year.

Of course, a simple lumbar curve is the most easily dealt with, and I will begin with the procedure as adapted to that sort of deformity, only premising that these methods are not used to the exclusion, but come in aid, of the various devices described in my former writings.

The case about to be considered (illustrated by Fig. 1) is one of rather severe lumbar curvature to the left, without, or with only slight secondary dorsal curve—a case in which shortening of muscles and ligaments is diagnosed. In order to stretch these, I use a girth of strong webbing three inches wide and two feet and a half long, each end of which is sewn round a strong flax cord of rather greater length, so that the whole forms a sling about four and a half feet long when folded in two. The webbing part of this is placed on the left side of the patient's loins (a pad protecting the soft parts may be improvised from a folded flannel petticoat or may be more artistically made), and the cord is hitched upon a hook secured to the wall at about the height of this part of the figure. The patient must stand so that this girth is tight against her loin, but to obviate compression of the abdomen a wooden strut from one to one and a half foot long is placed between the two ends of the webbing which project on the patient's right.[3] Thus arranged, the patient throws the upper part of her body sharply and powerfully

FIG. 2.

to the left. She is to repeat this on each occasion several times, and the occasions are to recur twice or even thrice a day, according to power and health. These procedures suffice for the not very severe cases, and in more strongly marked ones, when the following more potent means are used, they should be additionally practised. The more potent means are that the surgeon uses force to bend his patient's body. He may stand on her left, and, passing one arm behind the other in front of her, clasp his hands just under her right axilla and drag her, forcibly, even by considerable jerks, over to the left; or he may let her sit on a chair, and, placing his knee on the right side of the seat to prevent the pelvis slipping, may, with his hand on the right side of the chest, force her over to the left. In still worse cases, pulleys may be used somewhat after the manner now to be described for dorsal curve.

When dealing with an S shaped curve in its more advanced stages the arrangements are not quite so simple, and Fig. 2 requires some explanation. It shows a patient sitting, which is the most desirable posture. The loin girth being arranged as above described, another similar loop is for the present allowed to hang loosely about her waist. She is then directed to bend over towards the left; a padded loop with webbing straps is passed over her left arm up to the axilla, and the cord attached thereto, which runs through a pulley, is drawn rather tight, and secured on a blind-cord catch. The middle girth, till now hanging loose, is placed on her right side, opposite the most aberrant part of the dorsal spine; and into the rope part of the loop is hitched the hook of a system of pulleys such as is used for reducing dislocation after the Astley-Cooper method; the hook on the other set is caught in a cellar-flap-ring screwed to the floor about eight feet from the patient. The surgeon sees that the patient does not sit perfectly square between the hooks and the cellar flap ring, but so turned that she faces a little (forty-five degrees) towards the latter;[4] he then takes the cord of the pullies and draws on it gently, and as soon as a little tension begins he slips in between the ends of each girth, and close to the patient, a strut of wood one inch thick, from ten to eighteen inches long (according to her size), and four inches broad; in each end is a hollow notch three inches wide—i.e., long enough to secure the girth. These struts, by keeping the girths well asunder, prevent constriction of either abdomen or thorax, and in the latter case they obviate narrowing of the angles of the rib, which would otherwise result. With these struts and pads in position, the surgeon may now pull strongly on the cord. Of course he will not use as much force for a slim, delicate figure as he would for a shorter and sturdier one; he must also be guided by the amount of curvature, and the pull should not be continued beyond the first sensation of fatigue. I propose to call this process, since it loosens the shortened ligaments of the spine and muscles, "rachilysis." No pain whatever accompanies or follows it; indeed, in several of my cases that weary pain in the back which so often accompanies curvature has been greatly relieved, so that girls have begged to be submitted to it more frequently than I had proposed.

Unfortunately the limited space at my disposal will not allow me to give cases, which shortly will be published elsewhere; but, instead, I will again—referring to Fig. 2—point out very briefly how rachilysis affects the double curve (dorsal to right, lumbar to left). The loin girth upholds the convexity of that part, and the patient bending over to the left partly strengthens it. The dorsal curve, it must be remembered, reaches its acme about the fifth or sixth vertebra, and from that point upward the spine slopes to the left. Now the padded loop encircling the patient's shoulder, but really acting on the upper part of the left thorax, counteracts this slope; while the dorsal girth placed at the culmination of the curve powerfully draws this right-handed bend to the left and may straighten it, even for a time convert it into a left bend, as in the patient from whom my figure was sketched; while the resistance against the force of the pulleys offered by the loin girth, still further bending the patient to the left, thus completely rectifies or even reverses the lumbar curve. Also, the patient being placed at the angle above described between the ring in the floor and the hooks, rotation is greatly or entirely counteracted. Having thus set the spine free from its imprisoning bonds, it becomes after a certain number of repetitions amenable to treatment; nor have I, among a large number thus treated, been able to trace injury or even discomfort in a single case.

Wimpole-street, W.

[3] This and the pad are omitted in the figure.

[4] In the figure, pads which guard the bandage from galling the patient are omitted for the sake of simplicity, nor is the turn of the body quite correctly given.

ON THE ANÆSTHESIA PRODUCED BY THE ADMINISTRATION OF MIXTURES OF NITROUS OXIDE AND OXYGEN.

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[PRELIMINARY NOTICE.]

EVERY anæsthetic with which we are acquainted possesses its special advantages and disadvantages, and nitrous oxide is no exception to this rule. The main objections to the gas as an anæsthetic will be found to be almost wholly dependent upon the unfortunate property which it possesses of being irrespirable save for a brief space of time. I am, of course, taking it for granted that the gas is administered in its pure state and unmixed with air. After a short though variable period of inhalation, certain phenomena

occur to which I would direct special notice—phenomena which necessitate the withdrawal of the anæsthetic and the admission of air to the lungs. Amongst these phenomena may be mentioned—lividity or actual cyanosis (varying with the previous colour of the patient's face), true stertor, jerky and irregular respiration, clonic movements in the extremities and elsewhere, dilatation of the pupils, and considerable acceleration of the pulse-rate. Most, if not all, of these symptoms occur whenever the gas is administered to full surgical anæsthesia, and they are, I believe, asphyxial in their origin—i. e., dependent upon the deprivation of oxygen, which necessarily accompanies the administration of the gas. In support of this view many clinical facts exist. In the first place, it is possible to secure anæsthesia (although such anæsthesia is of an imperfect type), and to avoid all asphyxial complications, by the administration of nitrous oxide with a moderate quantity of air. In the second place, the phenomena above described will be found to be most pronounced in those cases in which, from any cause, the exit of nitrous oxide or the entry of atmospheric air is retarded at the close of the administration. Thirdly, although anæsthesia is most profound when the asphyxial symptoms are at their height, there always persists a period of available anæsthesia after the symptoms in question have subsided by reason of the admission of air to the lungs when the face-piece has been removed. Lastly, as the late Paul Bert has shown, it is possible, by administering the gas with oxygen in a closed chamber in which the atmospheric pressure can be raised, to secure the full anæsthetic effects of nitrous oxide and the absence of all asphyxial complications. Nitrous oxide is, in fact, a true anæsthetic; and, were it not for the incidental manifestation of the phenomena to which I have alluded, would be capable of a much wider application than that which it at present enjoys. The concurrence of the asphyxial with the anæsthetic state led many persons in the earlier days of anæsthetics to attribute the latter condition to the former; and even at the present day there are many who cannot be made to recognise that the symptoms due to the deprivation of air are only incidental to the administration. Nitrous oxide is only respirable to a certain limit, because during the administration the patient rapidly loses what oxygen he had in his air-passages and blood, and because he cannot obtain any from the gas which he is breathing. Moreover, the phenomena which arise towards the close of the administration occur very quickly, because the gas is rapidly and freely absorbed and the oxygen tension in the blood speedily lowered. The anæsthesia which remains after a full physiological dose of the gas is short (average twenty-five to thirty seconds) in consequence of the rapid escape of the nitrous oxide when air is admitted to the air-passages. We have, in fact, in nitrous oxide an agent which quickly produces anæsthesia with certain incidental symptoms due to the want of oxygen; and it is the manifestation of these incidental symptoms which constitutes the chief objection to the gas. It is true that experience has taught us that the phenomena mentioned are practically unattended by any risk to the patient; yet they have their objectionable aspect, not only from the point of view of the administrator, but also from that of the operator, to whom the jactitation is often highly inconvenient. I need not here enter into the many other reasons why it would be preferable for the phenomena under consideration to be conspicuous by their absence. It will be quite obvious to everyone that, if we could obtain by nitrous oxide an anæsthesia devoid of such phenomena, we should achieve an important step in the administration of anæsthetics. I am fully aware that some administrators do not push nitrous oxide so far as I have indicated; but all those who have worked for many years with the agent will agree that it is impossible to obtain full surgical anæsthesia without the manifestation of some of the symptoms referred to. If the administration be discontinued before such symptoms occur, the anæsthesia is very likely to be imperfect and consciousness insufficiently destroyed. I am willing to admit that in some instances total abolition of consciousness, freedom from pain, and quietude may be secured by a comparatively small dose of the gas; but such cases are very exceptional, and cannot be depended upon. Some have attempted to secure full anæsthesia with nitrous oxide by the occasional admission of a breath of air during the administration (in order to prevent the asphyxial phenomena); but the anæsthesia so produced is almost certain to be imperfect and unsatisfactory. We cannot help, in fact, inducing some of the objectionable symptoms if we wish to secure full anæsthesia by pure nitrous oxide as it is at present administered.

The late Paul Bert was, I believe, the first to attempt to produce a nitrous oxide anæsthesia without any asphyxial manifestations. He made experiments upon the lower animals with mixtures of nitrous oxide and oxygen, and appears to have come to the conclusion that these gases would not, if given together at ordinary atmospheric pressure, produce a satisfactory form of anæsthesia. He found that although he could abolish asphyxial complications by the mixture, the anæsthesia was incomplete, and was attended by such excitement as to render operations impracticable.[1] He pointed out that an increased atmospheric pressure was necessary for the administration of these gases in combination, and he argued as follows:—"Le fait que le protoxyde d'azote doit être administré pur signifie que la tension de ce gaz doit, pour qu'il en pénètre une quantité suffisante dans l'organisme être égale à une atmosphère. Sous la pression normale, il faut, pour l'obtenir, que le gaz soit à la proportion de 100 pour 100. Mais, si nous supposons le malade placé dans un appareil où la pression soit poussée à 2 atmosphères, on pourra le soumettre à la tension voulue en lui faisant respirer un mélange de 50 pour 100 de protoxyde d'azote et 50 pour 100 d'air; on devra donc obtenir de la sorte l'anésthesie, tout en maintenant dans le sang la quantité normale d'oxygène, et, par suite, en conservant les conditions normales de la respiration."

There can be no doubt that Paul Bert's plan of giving the two gases together in a closed chamber in which the atmospheric pressure could be increased answered admirably, and had it not been for the cumbrous nature of the apparatus would have been very generally employed. The anæsthesia produced was perfect, and was free from all asphyxial phenomena. But the objection named was a formidable one; and although the method was actually put into practice, with the best results, it only enjoyed, by reason of the apparatus being so costly and cumbrous, a limited popularity. Subsequently attempts were made, more especially in Germany, to administer nitrous oxide with oxygen at ordinary atmospheric pressure. In 1886, Dr. Hillischer of Vienna[2] reported many cases in which he had administered mixtures of the two gases for the purpose of producing anæsthesia during dental operations; but many of his cases were imperfectly anæsthetised, and several failed completely; moreover, the average available anæsthesia was not longer than that of ordinary nitrous oxide narcosis. Dr. Hillischer's example has, I believe, been followed to some extent in Germany; and Kreutzmann[3] of San Francisco has also administered mixtures of the two gases.

Wishing to put to the test the practicability of producing satisfactory anæsthesia with nitrous oxide and oxygen, without employing a specially constructed chamber, I commenced in May, 1886, some experimental administrations at the Dental Hospital of London. Since then I have from time to time continued the investigation. I have given the gases by various methods and in various combinations; but I do not propose to describe in detail individual cases. In the first series of administrations I attached to the ordinary face-piece for the administration of nitrous oxide a small bag containing a mixture of 20 per cent. of oxygen with 80 per cent. of the gas; this bag was separated from the face-piece by a stopcock. Nitrous oxide was administered by the usual method till the ordinary signs of nitrous oxide narcosis commenced to appear, when the stopcock of the bag containing the mixture was opened. The latter procedure caused the above-mentioned signs to subside; but when the face-piece was removed, the available anæsthesia was even shorter than if nitrous oxide alone had been employed, and the results were not satisfactory. In my second series I conducted the administration as described, but after the bag containing the mixture had been placed at the disposal of the patient for a short time pure nitrous oxide was again administered. The cases in the second series were, however, similarly unsuccessful. In a third series of administrations I interposed between the face-piece and the bag supplying the nitrous oxide a stopcock and dial in communication with a bag of pure oxygen. Nitrous oxide was first administered

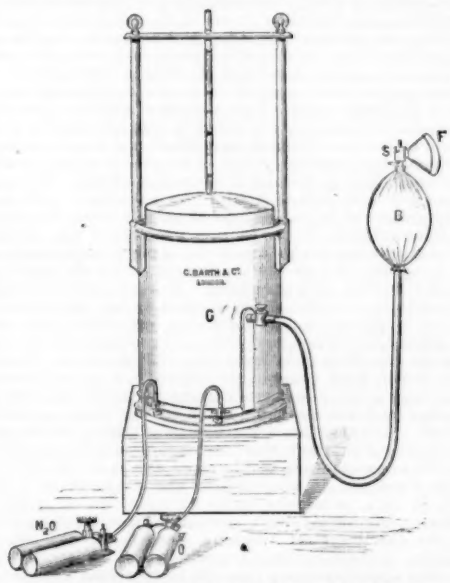
[1] Rottenstein: Traité d'Anesthésie Chirurgicale, p. 304.
[2] Oesterreichisch-Ungarische Kerteljahrsschrift für Zahnheilkunde, October, 1886, vol. ii., p. 343.
[3] Annual of the Medical Sciences, vol. ii., p. 512.

in its pure state; and as the administration proceeded the current of nitrous oxide was made to pass at the will of the administrator, and to any required extent, through the oxygen in the oxygen bag. None of these cases were, however, attended with satisfactory results. In a fourth series of cases I tried the intermittent administration of nitrous oxide and a mixture of 20 per cent. of oxygen and 80 per cent. of the gas; but the results, on the whole, were unsatisfactory. In a fifth series of cases I employed a gasometer and variable percentages of oxygen. I found that a considerable percentage was necessary to prevent cyanosis and other symptoms, and I tried to find that percentage which would succeed in most cases. After a large number of experiments, I found (by an analysis very kindly made for me by Dr. Percy Frankland) that a mixture containing 12·77 per cent. of oxygen answered admirably in eleven consecutive cases; and I was led to hope that this particular percentage would answer on all occasions. The anæsthesia which was produced quite astonished me. There was no excitement; the respiration was regularly and quietly performed; the colour of the cheeks and lips remained unimpaired or was even increased; there was no stertor; the available period of anæsthesia was longer than that of nitrous oxide narcosis; and the recovery was perfect. I may here state that in these eleven cases I was absolutely certain as to the percentage of oxygen employed; for in seven out of eleven cases I was supplied by Messrs. Barth and Co. with known and correctly proportioned weights of nitrous oxide and oxygen in steel bottles, and in the other four cases the mixture used was analysed as I have mentioned. The hopes which I had entertained of being able to anæsthetise all patients with this particular percentage were doomed to speedy disappointment, for in a sixth series of cases I worked with a percentage which was as near as possible identical with that previously employed so successfully, and of fourteen cases four failed, the patients becoming very excited, and one of them unmanageable. It seemed probable at this stage of the experiments that no definite percentage would succeed in every case, but that different patients would require different percentages of oxygen. Messrs. Barth and Co. accordingly constructed for me an apparatus by which it was anticipated the percentage of oxygen could be accurately regulated during the administration. Next to the face-piece there was a mixing-cylinder, from which two tubes led to two rather large bags, one being fed by nitrous oxide, the other by oxygen. The mixing cylinder was furnished with a dial and indicator, and by the rotation of the latter it was presumed that any desired percentage of oxygen could be added to the gas. I need not now enter upon the reasons why this apparatus failed.

From a careful consideration of the foregoing cases it was clear that those administrations which had been conducted by means of a gasometer and 12½ per cent. of oxygen were the most successful, although it must be admitted that several were not as satisfactory as could have been wished; and it seemed to me probable that the last-mentioned cases might have been brought to a successful issue if provision had been present for increasing or diminishing the percentage of oxygen in response to the behaviour of the patient under the mixture. I therefore fitted up the apparatus figured in the annexed woodcut, which, it will be seen, was so arranged that, if more nitrous oxide or oxygen were required during the administration, the administrator could easily admit more. With this apparatus I anæsthetised in all seventy-eight patients. The figure shows clearly the plan which was adopted. The vertical measuring-rod of the gasometer was divided into eight equal parts. The gasometer was first charged with one-eighth of oxygen (= 12½ per cent.), and seven-eighths of nitrous oxide were then added. The gasometer having been thus filled from the bottles upon the ground, the tap leading to the gas bag was turned and the latter partly filled. It will be observed that no counterpoise was used, so that the mixture issued under slight pressure. The administration was then commenced, expirations escaping through the valve of the stopcock. By the kind assistance of Mr. J. Percy Smith, house-surgeon at the Dental Hospital, and several students to whom I am also indebted, I was enabled to obtain full notes of the first fifty-nine of the seventy-eight cases. The average period of inhalation before the removal of the face-piece was 126 seconds; the average available anæsthesia after the removal of the face-piece was forty-four seconds; and the average quantity of the mixture required was eight gallons and three-quarters.

With one or two exceptions every patient was readily anæsthetised by the mixture I have described; and in those instances in which excitement occurred, it either subsided spontaneously as the administration proceeded, or was controlled by freely supplying nitrous oxide to the gasometer when the mixture had been nearly exhausted. In one case only was there so much excitement as to necessitate the restraint of the patient's movements, and in this case the gasometer was found for some reason or another to have ceased working. The bearing of this fact will be subsequently appreciated.

In about 90 per cent. of the cases the following symptoms were produced by the administration of the mixture. Respiration was at first more or less accelerated, but the acceleration eventually became replaced, in many cases quite abruptly, by marked slowing of the breathing. No true stertor occurred; indeed, the respiration, after about a minute, usually became as tranquil as that of ordinary sleep. The contrast between the jerky and tumultuous breathing of nitrous oxide narcosis, and the quiet, often almost imperceptible, respiration which characterised most of the cases, was very evident. With the exception of two cases in which I freely admitted nitrous oxide towards



F, Face-piece. S, Stopcock with inspiratory and expiratory valves. B, Bag through which the mixture passes on its way to the face-piece. N_2O, A pair of bottles containing liquefied nitrous oxide. O, A pair of bottles containing oxygen.

the close of the administration, there was not the slightest cyanosis in any instance; in fact, the colour of the patients' lips and cheeks was frequently brighter when the face-piece was removed than before its application. The pulse was usually full, strong, regular, and averaged about 80 or 90 to the minute. In many instances transient and slight rigidity of the extremities was noted, but subsided at or about the time that the respiration became slower. In one or two cases rigidity persisted throughout. In no case was there any clonic movement similar to that of ordinary nitrous oxide narcosis. It was often difficult to decide when to discontinue the administration and to allow the operator to commence; for nearly all the usual phenomena of full nitrous oxide anæsthesia were absent, and the mixture seemed as freely respirable as ordinary air. I found, however, that the eye gave valuable indications of anæsthesia. Any attempt to raise the upper lid during the earlier stages of the administration caused spasm of the orbicularis muscle; but when calm breathing and relaxation of the arms had occurred, the upper lid could usually be raised without inducing spasm, and so the eyeball could be observed. At this period the eyes were usually fixed and turned to the right or left; but in some

instances they were directed forwards and then presented slight oscillatory movements. The usual conscious fixation of the eyes upon surrounding objects was absent. The pupils were variable, but never widely dilated. During the operations which were performed, the patients were, generally speaking, perfectly quiet; but in some instances a slight degree of reflex movement was observed. The recovery was, in the majority of cases, not quite so speedy as that from nitrous oxide, the patients often exhibiting a little temporary difficulty in maintaining their equilibrium, &c. In one case vomiting occurred, but this was, I think, in consequence of blood which had been swallowed. No faintness was noticed or complained of in any case. The patients seemed to have less hesitation in breathing the mixture than in taking nitrous oxide alone.

The results which I had obtained by using the gasometer and the mixture indicated were so satisfactory that I next attempted to devise a portable apparatus for conducting the administration upon the same principles. Messrs. Barth and Co. therefore made for me two indiarubber bags having respectively the capacities of ten gallons and a half and one gallon and a half, and connected together by a wide metal tube and stopcock. The large bag was fed from a pair of bottles containing nitrous oxide; the small one from a pair of bottles containing oxygen. From the large bag there passed a wide tube to the face-piece. The large bag was filled with nitrous oxide, and the small bag with oxygen; the stopcock between them was then opened, and their contents allowed to diffuse. Up to this time I had never fully appreciated the part played by pressure when using a gasometer. It soon became obvious, however, when comparing the results obtained by the use of the bags with those observed when employing a gasometer, that the pressure at which the mixture had been inhaled when using a gasometer was a most important element in the administration. I found, when administering the mixture from the bags described, that unless the bags were compressed during the inhalation the anæsthesia was liable to be imperfect and transitory; whereas, if by the aid of an assistant pressure was brought to bear upon the bags, the anæsthesia was similar in its main features to that obtained by the use of the gasometer. I purposely conducted a few administrations without employing pressure, and waited until signs of excitement and imperfect narcosis commenced to appear; I then asked my assistant to compress the bags, and the result was that the symptoms mentioned subsided and full anæsthesia became established.

I have called this a preliminary notice because I am still continuing the investigation. I have ventured to publish the results which I have up to the present time obtained, since I feel most strongly that attention should be directed to the remarkable anæsthesia which characterised the majority of cases in which the mixture above described was administered under slight pressure from the gasometer. In looking through the accounts of gas-and-oxygen administrations conducted under what is termed ordinary atmospheric pressure, I have been unable to find any special reference to the necessity, soon after the commencement of the administration, of forcing the mixture, as it were, into the air-passages. Speaking generally, it will, I think, be clear, from the cases I have described, that attempts to produce satisfactory anæsthesia with gas-and-oxygen mixtures administered without provision for increasing the pressure in the air-passages will certainly fail. I cannot find that the late Paul Bert recognised the possibility of administering these gases under pressure, except by conducting the administration in a closed chamber, in which the barometrical pressure could be increased. If he or any other observer has recognised this possibility, I regret that I am in ignorance of his results. The influence of the pressure which can be brought to bear by the over-distension of an indiarubber bag, when the face-piece fits accurately, may not only be observed when using mixtures of nitrous oxide and oxygen, but also when employing nitrous oxide *per se*. In the latter case it may be said that, other things being equal, the greater the pressure in the bag the more rapidly will anæsthesia ensue, and the more quickly will consciousness be subsequently established; and *vice versâ*. I have elsewhere[5] brought forward evidence to show that the longer the patient can be made to inhale nitrous oxide, within certain limits, the longer will be the resulting anæsthesia; and it seems to me that this fact may be taken to explain the longer available anæsthesia which undoubtedly occurs when using nitrous oxide and oxygen. Even if a small quantity of atmospheric air be mixed with nitrous oxide, the usually bad effects of the dilution may be prevented by increasing the pressure at which the gas is given.

I am fully conscious of the imperfect character of this preliminary report; but I venture to hope that its shortcomings will be excused, seeing that it aims at nothing more than directing attention to an anæsthesia which may be produced by nitrous oxide and oxygen without the costly and elaborate apparatus devised by the late Paul Bert. I am not at the present moment prepared to state that it is possible to secure this almost ideal form of anæsthesia in every instance, even when using a gasometer and the mixture described. But in the majority of cases such an anæsthesia may be depended upon; and it is merely a matter of secondary importance to determine what means will be found to be best suited for bringing to a successful termination those exceptional cases in which symptoms of imperfect anæsthesia arise. I have not yet determined whether a simple increase of pressure will always suffice, or whether we should not have at hand the means for supplying pure nitrous oxide if required. These are, I think, minor considerations. The important fact remains — that a mixture of nitrous oxide with 12½ per cent. of oxygen, when administered under pressure from a gasometer, will in nearly every case produce a most satisfactory anæsthesia. I am now engaged in devising a portable apparatus for the administration of this mixture under pressure, and I hope soon to be able to publish the results. It will be obvious that the mixture I have indicated, when administered as described, may possibly be found to be available for operations of much longer duration than those for which it has hitherto been employed. But I hope to consider this as well as other important questions in a subsequent communication.

George-street, Hanover-square, W.

[5] Journ. Brit. Dent. Assoc., vol. vii., p. 344.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF COUGH (REFLEX) AND CONVULSIONS DUE TO ADHERENT PREPUCE.

BY T. GRANT LANGHORNE, M.R.C.S., L.R.C.P.ED., &c.

ON March 23rd, 1888, C. B——, a child aged five years, was brought to me by his mother with the following history. He had had a constant dry, hacking cough for the previous two years. It was always worse at night, and kept him awake for several hours, coming on in paroxysms, and often accompanied with convulsions. The mother had taken him to several medical men without any apparent benefit.

On examining the patient, I found him to be a well-nourished, healthy-looking child. There were no abnormal signs to be detected in his chest. His throat was slightly congested, but the tonsils were not enlarged. His pupils were widely dilated, which was no doubt due to some patent medicine he had been taking, for they became normal on ceasing to take it. I treated him for some time, with no relief to his symptoms, and was inclined to think his mother had exaggerated them, for I had never heard him cough, and he always appeared in perfect health when I saw him. However, on June 1st I was sent for hurriedly about 2 A.M., the messenger saying that the child was choking, and that they thought he was dying. On reaching the house, I found the little patient gasping for breath, his face livid, and the pupils dilated, with general convulsions. Pulling down the bedclothes, I happened to notice his prepuce, which was unusually long and adherent; I could scarcely introduce a fine probe into the orifice. Believing that I had now found the cause of his symptoms, I gave him a whiff of chloroform and circumcised him on the spot. By the time this slight operation was completed he was sleeping quietly, and since that time he has never had any return of his former symptoms.

I venture to think this case may prove of some in-

terest. The child had been under constant medical treatment for nearly two years, without the slightest benefit; and it was only by accident, I must confess, that I discovered the condition of the prepuce.

Millicent, South Australia.

REDUCTION OF A STRANGULATED FEMORAL HERNIA AFTER THE USE OF ETHER SPRAY.

By H. W. MARETT TIMS, M.B., C.M.EDIN.

As I am not aware of the following plan of treatment ever having been adopted in the reduction of an otherwise irreducible hernia, the following case may be of interest.

Mrs. J. D——, aged eighty, has for the last three years been troubled with a femoral hernia on the right side, which has frequently come down, but which she has been in the habit of reducing herself. In February last I saw her for the first time, as she was then unable to reduce it. After applying taxis for a short time it went back, and I advised her to wear a truss, but as she felt no further inconvenience for the next five weeks she neglected this precaution. About three weeks ago, being troubled with a cough, the hernia readily came down, and was as easily replaced, but at 9 P.M. on April 15th it came down suddenly while she was sitting at supper, and caused her to feel very faint, and, as she said, it "felt quite different from what it had ever done before," and she was unable to reduce it. I was not sent for till 7.45 the next morning, when I found a hard swelling about the size of a large walnut lying over Poupart's ligament and to the outer side of the pubic spine; there was no impulse on coughing. I applied the taxis, but was unable to reduce it. I ordered the application of ice, and returned about 11 A.M. The patient was then feeling very ill; vomiting had set in, but was not stercoraceous; the tongue was furred, and she complained of abdominal pain and great thirst; the pulse was quicker, very feeble, and intermittent; the bowels had not been moved, nor had she passed any flatus, though there was constant eructation. I again tried the taxis, and failed. At 1 P.M. I saw her in conjunction with a medical man in the neighbourhood, and he, too, was unable to effect a reduction. I considered the advisability of putting her into a warm bath, but decided against it on account of the patient's age and condition. The alternate application of heat and cold was then tried, and I saw her again about 6 P.M., by which time the vomiting had become incessant and stercoraceous, and the abdominal pain and tenderness great. I advised an operation, but she would not hear of it. On seeing her again about 9 P.M., it occurred to me as a last resource, as the application of ice was often of great advantage, to try the ether spray, which I did, spraying the hernial tumour till there was no tenderness on manipulation, and, to my great relief, I found I was then able to return the mass quite easily. The patient passed a good night, and is now quite recovered. I might also add that for the last thirty years the patient has had a femoral hernia on the left side, but has always worn a truss, and has had no inconvenience from it. I should be interested to know if any of my readers have tried the above plan, and with what success.

Lupus-street, S.W.

ANOTHER CASE OF COMPLETE INVERSION OF THE UTERUS.

By WALTER HUTCHINSON, M.R.C.S.

I WAS much interested in reading Dr. Jefferson's case of complete inversion of the uterus in your issue of Dec. 29th, as it brought to my mind a case which happened in my own practice a few months ago. In almost every particular the cases are exactly similar, with one exception, that in my case there was profuse hæmorrhage.

Mrs. C——, a primipara, aged twenty-eight years, a thin and delicate woman, sent for me on the morning of Oct. 9th, having been in labour several hours. I found her in the first stage of labour, the pains being short and feeble. I saw her at intervals during the day, and the child was born at 7.30 P.M. Upon the expulsion of the child, the patient uttered a terrified cry, and on examination I found what (so graphically described by Dr. Jefferson) had happened—viz., complete inversion of the uterus; the placenta was partially adherent, and profuse hæmorrhage was taking place from the abraded surface. The placenta was removed without any difficulty, the patient all the time losing large quantities of blood. I immediately administered a full dose of ergot and brandy, and at once attempted the reduction of the inversion. In this I was only partially successful on account of the struggles of the patient, and fearing some laceration of the womb might take place, I decided to give a few whiffs of chloroform. After plugging the vagina, I ran to my surgery, which was near at hand, and having obtained the assistance of my friend Mr. Gray, we returned with all haste, to find the patient in a state of collapse. I immediately grasped the womb with my right hand, and, keeping up a firm steady grip for a few minutes, I had the gratification of feeling the womb gradually receding from my grasp, until my hand was almost drawn into the uterine cavity. With my left hand I then seized the womb through the abdominal walls, fearing that during the withdrawal of my right hand the uterus might again become inverted. I then passed two or three small pieces of ice into the uterine cavity, which entirely stopped the hæmorrhage. I managed to get a small quantity of brandy down the patient's throat, and by degrees the pulse again became perceptible. A stout calico bandage was tightly applied round the abdomen, and the woman made a rapid and uninterrupted recovery.

I think there is no doubt as to the cause of the inversion—namely, shortness of the cord (nine inches), and the weak and enfeebled state of the uterus consequent upon the prolonged labour.

Newmarket.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Mort.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

CONSIDERABLE HYPERTROPHY OF THE MIDDLE LOBE OF THE PROSTATE; EXCISION; DEATH; REMARKS.

(Under the care of Mr. W. ARBUTHNOT LANE.)

THIS case is an example of a method of treating localised enlargement of the prostate when the enlargement has seriously interfered with the proper function of the bladder and produced dangerous symptoms. As this mode of operation is still comparatively recent and to a certain extent on its trial, the careful record of cases in which it has been employed is of considerable importance; we therefore publish the following case in full. There are numerous recorded instances of the removal of the middle lobe of the prostate after a perineal incision, usually the lateral incision for stone, the hypertrophied middle lobe having been removed, even when of very large size, with excellent results, the symptoms dependent upon this enlargement having been completely relieved, as well as those which depended upon the presence of the stone. Some have practised division of the obstruction through a perineal incision made as for digital examination of the bladder. Mercier invented a special knife which he employed through the urethra, the instrument being shaped like a lithotrite. Bottini substituted the galvano-cautery for the knife. It cannot be doubted, however, that the best method to employ is the supra-pubic. By this the diseased part is brought fully into view, the operative procedure best adapted to its removal carried out, and thorough drainage and antiseptic irrigation rendered easy to an extent hardly possible from the perineum. The supra-pubic incision has long been recognised as a most useful procedure in troublesome cystitis with a very irritable bladder, repeated hæmorrhages from the prostate, and also when the patient has been unable to pass a catheter himself. The possibility of removal of the diseased portion of prostate through this incision is ascertained, and, if deemed advisable, carried

out. Mr. M'Gill,[1] who first brought the operation before the profession in England, has recorded successful cases. In one the condition of the urine is described as putrid, whilst the openings of the ureters were so large that the forefinger could be introduced into them. Mr. Atkinson[2] operated successfully on a man aged sixty-six; severe symptoms, however, followed with bronchitis. In another patient, aged seventy-one, acute pleurisy proved fatal fifteen days after operation. Mr. Jessop of Leeds, also, lost a patient from acute parotitis. The operation has been performed occasionally, but with an encouraging amount of success, in America. The hæmorrhage which accompanies the removal of the diseased part is often free, but can be readily arrested by the use of hot antiseptic solutions or temporary pressure; but if the operation be not prolonged, the amount of increased shock is not necessarily important unless the patient be already enfeebled by loss of blood or other causes, whilst no condition of urine appears to contra-indicate its performance, and the gain to the patient, if successful, is very great.

J. R——, aged seventy-two, presented himself amongst Mr. Lane's out-patients on March 2nd, 1889. He said that, although he was an old man, he had been able to do some work, and had enjoyed fairly good health till a fortnight previously, when one day, for the first time in his life, he suddenly experienced great difficulty in passing his urine. This difficulty increased very rapidly, so that, in order to pass even a spoonful, he had to strain very forcibly for a considerable time. He noticed also that on the day after the onset of this obstruction his urine was bloody, and that day by day the amount of blood in it increased. He had suffered from bronchitis for several winters, and was in the habit of coughing up much matter. This had troubled him particularly during the present winter. He said he had always been a temperate man. He was apparently very poor, and had been much exposed to the vicissitudes of the weather. An examination of the rectum showed that the prostate was much enlarged, and that it extended upwards in the middle line beyond the reach of the finger. It was apparent that, besides this more local hypertrophy of the prostate, the whole organ was considerably enlarged. The bladder was distended to within an inch of the umbilicus. A large gum-elastic catheter with an abrupt curve was passed with ease into the bladder, and about thirty ounces of blood-stained urine were removed. The amount of blood present in the urine was only sufficient to give it a distinct red colour. An examination of his chest showed that there was much emphysema and a considerable amount of pus in the tubes in either base. It appeared that there was in this case a general and considerable hypertrophy of the whole of the prostate, and that, besides this, there was a very remarkable hypertrophy of its middle lobe. He was ordered to use a soft rubber catheter several times a day, and to keep quiet till the following Wednesday, when it was intended to admit him into the hospital. He did not appear till the following Saturday, March 9th, when he was extremely blanched, and so feeble that he could hardly stand. His pulse was very rapid, intermitting every third beat, and at times hardly perceptible. He said that after he left the hospital he had been unable to pass any urine without the use of the catheter, and what he had drawn off was thick and resembled pure blood in appearance. Instead of the soft rubber catheter ordered, the instrument maker had provided him with a very pliant and flexible gum-elastic catheter, which he had passed without a stilette, after soaking it for some time in boiling water. This same instrument was passed in the out-patient room with the greatest ease, no obstacle being experienced to its passage. About a pint and a half of what appeared to be liquid blood was withdrawn; and though it did not coagulate on standing, it was obvious from its consistence that the proportion of blood contained in the liquid was very considerable.

The man was admitted at once, but as he was so feeble any operative interference was postponed till the following day, in order that he might be given some nourishment, of which he had taken little or nothing for some days. His bladder was also evacuated with a catheter at intervals, and some glycerine of tannic acid was introduced into it. He was kept perfectly quiet on his back.

On the following day (March 10th) his condition had not improved, and a considerable quantity of the same blood-fluid had been removed during the night. During the time he had been in the hospital he had coughed up about half a pint of thick purulent material. It was apparent that any attempt to remedy the prostatic congestion and to stop the free hæmorrhage by simply continuing to drain the bladder, &c., would simply result in the death of the patient within forty-eight hours, if not sooner. He was therefore put under chloroform, and his bladder and rectum were moderately distended. The bladder was opened in the middle line above the symphysis. Its wall was much thickened, and its cavity enormously dilated. The finger could be introduced into the openings of numerous large sacculi which were scattered over the posterior aspect and sides of the bladder. A large firm globular mass, fully as large as a Tangerine orange, projected upwards from the base of the bladder immediately behind its neck. It was not constricted at its base, and it was apparently continuous with the body of the prostate, which was much enlarged. An attempt was made to enucleate the mass with the fingers, but it was at once obvious that it could not be removed in this manner. The bag in the rectum was emptied, and the wire of an écraseur was placed around the base of the growth, which was then removed. The amount of hæmorrhage from the cut surface was comparatively small, and bleeding was readily controlled by the introduction of ice and sponge pressure. A soft catheter was fixed in the bladder by a single suture in such a manner that its extremity reached to the deepest portion of the bladder cavity, and to its other end was attached a rubber tube, which hung in a basin containing boracic lotion placed under the bed. By this means the urine was syphoned off from the bladder as it was secreted.

For some hours after the operation the urine contained some blood, though in a smaller quantity than before its commencement. Afterwards it became quite clear and remained so. The wound was left open, being irrigated twice a day with 1 in 500 of perchloride of mercury and dressed with alembroth wool saturated with a mixture of glycerine and iodoform. He was fed with three ounces of peptonised milk and a drachm of brandy every hour, this being increased within a few days to four ounces of milk and two drachms of brandy. Twenty-four hours after the operation the pulse had become much slower, and had lost the very intermittent character it presented before the operation. He continued to bring up pus in the same abundant manner that he did before the operation, but this he said was no more than he had done during the whole of the winter. He went on very satisfactorily till March 18th, when he ceased quite suddenly to cough up pus, and his temperature rose to 104°. From that date he gradually sank, and died on the 21st, eleven days after the operation. As soon as the urine had become clear of blood, it was found to contain but a small quantity of albumen. It was quite obvious that he had died through inability to bring up the abundant purulent secretion, and that his death did not directly depend upon the operation.

The necropsy showed that the lungs were very emphysematous, and that there was much sticky pus in the thick-walled bronchial tubes. The kidneys presented comparatively little change. There was no peritonitis, nor was there any sign of extravasation of urine. There was no reason to suppose, from a microscopical examination of the mass removed, that it was other than simple hypertrophy of the prostate

Remarks by Mr. LANE.—The case is of interest from three points of view—namely, the sudden onset of the subjective symptom of obstruction, the excessive amount of hæmorrhage, and the large size of the growth. It was obvious from the hypertrophied condition of the bladder wall, the size and number of the sacculi, and the considerable dilatation of its cavity, that the growth in and about the middle lobe of the prostate must for some long time have interfered with the free escape of urine. As I have already stated, the patient denied having experienced any previous difficulty whatsoever, and asserted that he had passed his urine in a fair stream, and could give no reason for the sudden onset of his symptoms. As a rule, this sudden appearance of symptoms of obstruction—which is not very uncommon—is ascribed to some indiscretion, such as drink, not emptying the bladder for some considerable time, &c., and is probably due to the growth and its mucous covering becoming much congested and its bulk increased in consequence. Although such growths are, when examined in section, apparently but slightly vascular, it is not unlikely that they are subject to considerable variations in size. Though the mass removed was kept in a piece of lint

[1] THE LANCET, vol. ii. 1887, p. 1016. [2] Ibid., vol. i. 1888, p. 1195.

moistened with glycerine and water, and was enclosed in gutta-percha tissue, yet on the following day it was found to have diminished in bulk by at least a third. The same congestion or erection accounts for the excessive hæmorrhage from its surface. There was no appearance of inflammation of the mucous membrane covering it, nor was there any evidence that it had been injured by the passage of the catheter; besides the latter fact, the bleeding commenced before any instrument had been passed. The small amount of hæmorrhage which took place after the growth had been removed was striking, since the circular torn surface had a diameter of about two inches. This circumstance also suggests that the hæmorrhage resulted from an intense congestion of the growth and its mucous covering during the ineffectual straining efforts to void the urine, and is somewhat analogous to the profuse hæmorrhage which sometimes occurs from the congested nasal mucous membrane. The size of the growth was unusually large. It appears to me that the chief risk of this operation depends, not on the severity of the operation itself and the accidents consequent upon it, but upon the fact that we have to keep confined to his bed in the horizontal position a man who is often old and feeble, and who, if troubled with any chronic bronchitis, finds great difficulty in bringing up his expectoration in this position. The amount of expectoration also increases when the patient is kept for any time in this posture. The unfortunate termination of this case, in which the operation was not one of convenience but of necessity, cannot be regarded as unfavourable to this form of operative interference, for the results of the operation itself were most satisfactory, since the patient was saved from death within a very few hours, and would have recovered except for the unfortunate complication to which he had been so long subjected. If he had not been in such a feeble condition at the time of the operation, we should probably have been able to prop him up in bed, or even to get him, within a few days of the operation, placed under more favourable circumstances; but this we were unable to do. I think there is little doubt that removal of the obstructing enlarged portion of the prostate by the suprapubic method will become a very popular operation in suitable cases, as the risks are small, the operation is easily performed, and the distressing condition is benefited by it.

MILTON LUNATIC ASYLUM.

CASE OF RAYNAUD'S DISEASE FOLLOWING ACUTE MANIA; REMARKS.

(Under the care of Mr. W. C. BLAND.)

ONE of the most noteworthy additions to the description which Raynaud gave of this disease is the occasional occurrence of intermittent hæmoglobinuria. Dr. Barlow[1] points out "the marked parallelism between typical cases of intermittent hæmoglobinuria and cases of the disease, in which the paroxysmal character of the local asphyxia must be considered an essential 'note' of the morbid phenomena. They are not in a true sense periodic, but they are both paroxysmal. The attacks in both affections have a remarkable relation to changes of temperature. By far the greater number of both are exclusively winter and cold weather affections, and, if not exclusively, they are primarily so; and if the attacks do not vanish, they notably diminish when the warm weather appears. The extremities in the onset of an attack of hæmoglobinuria may become extremely cold and blue." The mental attack which preceded the symptoms in this case was one of considerable severity, and was followed by very severe general manifestations of the disease. The chief nervous symptoms[2] which have been noted in these cases are epileptiform convulsions, curious maniacal attacks in the early part of the illness in a case where one finger tip was affected with gangrene. Dr. Southey states that he has seen several examples of the disease in asylum cases. Dr. Wiglesworth recorded a case with epileptic dementia. Some of Raynaud's cases were hysterical and chlorotic, whilst Dr. Barlow[3] records a case in which delusions were present between the attacks. The case here recorded is also remarkable from the presence of hæmoptysis and subcutaneous extravasations of blood, and for the affection of the eyes. For the following notes we are indebted to Mr. Nathan Raw, assistant medical officer.

Henry C——, aged twenty-three, a labourer, was admitted into this asylum on Dec. 18th, 1888, suffering from a severe attack of acute mania. He had been subject to epileptic fits since the age of thirteen, and his grandfather was epileptic. He was treated in a single room, but would not stay in bed, standing for whole nights on the floor on his bare feet. This continued for eight nights; on Dec. 25th his feet were noticed to be slightly swollen, but not discoloured. His mental condition considerably improved; and on Jan. 4th he was able to sit near the fire. He had a relapse, however, on the 11th, and on the following morning, after spending a restless night, his feet were noticed to be again swollen, and he complained of great pain.

On careful examination, the toes of both feet presented a bluish-purple tint, especially on the plantar aspect; they felt cold, and there was slight cutaneous anæsthesia, the patient experiencing subjective sensations of excruciating pain, especially referable to the anæsthetic regions. The pulsation in the tibial and dorsalis pedis arteries could scarcely be detected. There was considerable constitutional disturbance. The man felt a sense of constriction all over his body, intense frontal headache, with severe pain of a spasmodic character in the lumbar regions, and great tenderness over the region of the kidneys. In addition there were several small hæmorrhagic extravasations on the buttocks and thighs. His vision was also materially affected; he complained of dimness and inability to read. On ophthalmoscopic examination, the fundus was seen to be unusually pale, while the vessels were blanched and almost indistinct. The urine was very scanty, and of a smoky appearance; sp. gr. 1028; neutral in reaction; deposit of phosphates, albumen, and a large quantity of blood. Blood was also present in his expectorations.

The man was placed in a warm bed near the fire, and his feet carefully wrapped in cotton wool, the discolouration becoming more intense until perfectly black. Large blebs formed under the epidermis of the plantar surface of three toes, on opening which some sanguineo-purulent fluid escaped, revealing a distinct line of demarcation around the bases of the terminal phalanges, which were gangrenous. Charcoal poultices were freely applied, and every endeavour made to check the spread of the disease, the result being that three of the terminal phalanges of the right foot—viz., second, fourth, and fifth—and that of the left great toe, sloughed off, leaving a healthy granulating sore. His constitutional symptoms only lasted about a week; the pain in the back disappeared; blood was only observed in the urine and expectoration for three days, and then quite disappeared. Vision was restored, and the optic discs appeared normal. The toes have healed nicely, leaving very little deformity or inconvenience to the patient.

Remarks by Mr. RAW.—The unusual occurrence of this disease, together with its association with a lesion of the nervous system, are my excuse for bringing it before the notice of the profession. Following as it did a severe attack of acute mania, with cold as an exciting local agent, the occurrence of the paroxysmal hæmaturia, impairment of vision, and severe lumbar pain render it extremely probable that the disease was due to some central nervous lesion, causing spasmodic contraction of the renal arteries and hæmaturia, and contraction of the retinal vessels, with temporary loss of vision. The patient has improved, both in his mental and bodily condition, and, with the exception of occasional epileptic fits, is in good health.

[1] New Sydenham Society, Selected Monographs, 1888. [2] Op. cit. [3] Op. cit.; also Trans. Clin. Soc.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Rev. Henry Arkwright, of Bodenham, Hereford, has bequeathed £100 to the Hereford County Infirmary.—Mr. H. J. Campbell, late of Lorne Craigavad, county Down, has left by his will £500 to the Belfast Royal Hospital, and the residue of his estate, after payment of various bequests, for the building and endowment of an educational establishment and hospital in Belfast, to be known as the Campbell College and Hospital.—Mr. Philip Muntz, late of Somerset House, Leamington, has left by his will £100 each to the Birmingham General Hospital, the Queen's Hospital, and the General Dispensary.—The Treasurer of the Royal Infirmary Convalescent House, Corstorphine, has received from a "Friend" a donation of £100 in aid of the funds of the institution

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Dermoid Cyst of Chest.—Subdural Division of Posterior Roots of Spinal Nerves.

AN ordinary meeting of this Society was held on April 23rd, the President, Sir Edward Sieveking, being in the chair.

Mr. R. J. GODLEE read a paper on a case of Dermoid Cyst of the Right Side of the Chest communicating with a Bronchus. It was that of a lady, aged about thirty, married, but with no children. There was no symptom referable to the chest during childhood. She felt a sudden pain some years previously, which was followed by the rapid onset of pleurisy with effusion, which was converted into an empyema, which later burst into a bronchus, and pus continued to be expectorated in small quantities. These symptoms gradually subsided, but did not disappear. Some clubbing of fingers and slight albuminuria developed. At last some bulging and tenderness appeared in the right lower axilla. Considerable dulness and other signs pointing to the presence of an empyema were present. She was seen in consultation with Dr. Lauder Brunton in June, 1887, and after puncture with a needle had shown the presence of pus the cavity was opened. The cavity was small and presented certain peculiarities, which were not explained until at a second operation it was found to contain large masses of dark-brown hair, to be lined by skin, and to contain numerous skin-covered processes from which hairs were growing. Before this one or two hairs had appeared in the discharges, and others had been expectorated. On a subsequent occasion the opening was much enlarged and the most prominent of the projections removed, the rest of the surface, as far as possible, being treated with the actual cautery. The internal and external skin surfaces were united by sutures. The opening showed a great tendency to contract, with consequent retention of the discharges. At last, however, it was possible to retain a large vulcanite tube, which the patient was still wearing, and was now only incommoded by the discharge, which was thin and watery. There was no expectoration or cough. The stump of one of the projections obstructed the opening, and was removed in the summer of 1888. Specimens and drawings were exhibited, and the literature of the subject was discussed.—Dr. DOUGLAS POWELL looked on the case as a very unusual one, and not admitting of much comment. It was interesting from the point of diagnosis, for this and other like cases could hardly be distinguished from empyema. The case under consideration had come to him in consultation five years before it had passed under Mr. Godlee's care; he found the chest then full of fluid, and as there was hectic he suspected it was purulent; he recommended drainage, but this method of treatment was not carried out. Six months later the patient expectorated and brought up a pint of fluid; after that she became much better and married. Later still her general health failed, the fingers became clubbed, and albumen appeared in the urine, and so operation was agreed upon. The outline of dulness was quite like that usually found in localised empyema, being highest in the axilla, with a slanting line of resonance in front and behind, and it was quite impossible to diagnose dermoid till actual hair escaped. In future cases a more thorough exploration with the finger might lead to a suspicion of the true nature of the case. He imagined that the cyst grew from the root of the lung in close relation with the bronchial tubes.—Mr. GODLEE, in reply, said that his object in making a free opening was to produce a large dry pocket that would not require dressing, but this anticipation was completely foiled by the process of healing. It was disappointing that the secretion should remain so copious, but it probably came from the bronchial tubes as well as from the cyst. The failure of healing in this case was due to the same cause which prevented an empyema contracting—namely, the rigidity of the ribs and chest wall.

Mr. W. H. BENNETT read a paper on a case in which Acute Spasmodic Pain in the left lower extremity was completely relieved by Subdural Division of the Posterior Roots of certain Spinal Nerves, all other treatment having proved useless, and in which death resulted from sudden collapse and cerebral hæmorrhage on the twelfth day after the operation, at the commencement of apparent convalescence. A labourer aged forty-five was admitted into St. George's Hospital under the author's care on Aug. 29th, 1888, suffering from acute pain, sometimes spasmodic, in the left leg, apparently due to syphilitic thickening of the tibia of nine years' duration. The case was described in detail, and an account given of the following treatments to which the patient was subjected without benefit: (1) The administration of drugs—e.g., iodide of potassium, mercury, anodynes, and narcotics; (2) trephining and linear osteotomy of the thickened tibia; (3) amputation through the knee-joint; (4) stretching of the sciatic nerve; (5) resection of two inches and a half of the same nerve. By Dec. 8th the patient's condition was much worse; he had lost strength, and was more emaciated. The pain, referred to the leg which had been removed, was more acute; the spasms were violent and frequent, causing extreme suffering. The thigh on the affected side was a little wasted, but normal in sensation. A further trial of mercury proved useless. By Dec. 23rd it was clear that death must soon ensue if the suffering could not be relieved by some surgical proceeding, as anodynes and narcotics were now useless excepting in dangerous doses. The author therefore proposed, for reasons discussed, to lay open the spinal canal, examine the membranes, and if necessary the cord itself, over the region of the lumbar enlargement, in order to see whether there existed in either of the structures mentioned any lesion which could cause the pain, and which might at the same time be amenable to surgical treatment. In the event of this exploration proving negative in result, it was proposed to divide the posterior roots of those spinal nerves the distribution of which seemed to correspond to the areas over which the pain was felt. The operation, which was performed on Dec. 24th, was described (the posterior roots of the first, third, fourth, and fifth lumbar, and first and second sacral nerves being divided), and some points of interest connected with it received comment. The patient was entirely relieved of his pain. The subsequent progress of the case was described. For two days following the operation the man's state was critical, and later there was troublesome diarrhœa. By Jan. 3rd, 1889, the wound had healed, with the exception of a small sinus at its lower end, from which a little cerebro-spinal fluid came. The temperature was normal; pulse 84, of fair strength. The bowels acted naturally twice. The spasms continued, but were painless. On the 4th the patient suddenly felt some discomfort in his head, vomited, became first collapsed, then semi-comatose, and died in a few hours. The extent of anæsthesia produced by the operation was fully described, and also illustrated by diagrams. Although, as was subsequently seen, no union had occurred between the ends of the divided nerve roots, the sensation returned with a rapidity much in excess of what is commonly seen, under similar conditions, after the division of a nerve trunk—a fact of some physiological interest. At the post-mortem examination, the only lesion found with which the rapid termination of the case could be directly connected was a large blood-clot over the left occipital lobe of the brain. The cord was healthy in aspect, but opposite the seventh and eighth dorsal vertebræ was a well-defined thickening of the arachnoid. A microscopical examination of this as well as of various parts of the cord was made, and was described. In conclusion, it was submitted that, although cases in which the treatment mentioned was justifiable must necessarily be rare, in this particular instance the operation was sound in theory and successful in practice, since life was certainly not shortened, and was undoubtedly made comfortable. A confident opinion was further expressed that complete recovery would have been fairly certain had the treatment been adopted before the patient had become so exhausted. The case was believed to be the first published in which division of nerve roots for the relief of pain had been deliberately proposed and carried out.—Mr. TIMOTHY HOLMES had seen both the case and the operation, but his experience in these matters was hardly sufficient to justify discussion of a case so peculiar and so rare. There was an utter absence of pulsation of the dura mater. Some time ago he assisted in removing a congenital fatty tumour from over the middle of the back. A hole was found in the spinal column, and the membranes projected out. In that case the pulsations and the movements under respiration were as distinct as those seen in the cerebral dura, but

the case was one of a child, and the seat of operation was much higher up than in the present instance. It was remarkable how sensation recurred after removal of large portions of nerves. He quoted a case under Mr. Pollock in which four inches of the great sciatic nerve were cut out, and yet sensation persisted in the parts supplied by it. The anæsthesia following nerve section as the result of accident was usually more extensive, probably owing to damage to surrounding structures. The operation was bold but justifiable, and it should be taken into consideration in the treatment of similar cases in the future. Though the termination of the case did seem to hint at dangers we were unaware of, yet it might have been unconnected with the operation. The sudden seizure was not like the result of the gradual draining away of cerebro-spinal fluid.—Mr. HULKE wished to confirm all that Mr. Holmes had said about Mr. Pollock's case, for the patient afterwards came under his care into the Middlesex Hospital with fracture of the left tibia. The sensibility and the power of movement of the opposite thigh were then so complete that he at first doubted if neurectomy had been done.—Dr. FREDERICK TAYLOR asked in what group of nerve lesions this case was to be placed; he inquired also if the first symptom were pain or convulsive contraction, if there were any early symptoms of locomotor ataxy, if muscular wasting were present such as would be associated with a neuritis, if the attacks of vomiting could be considered to be "gastric crises," and if albuminuria were present. Because the sensory functions recovered rapidly, it did not follow that the patient would not have suffered pain again; he would rather have thought that the reverse would have been the case.—Dr. POWELL asked if the pain were due to the cramp. He wondered why the starting of the limb should have occurred after the neurectomy. The patches of sclerosis might possibly be an ascending degeneration following the nerve section. He thought the cramp might possibly be due to a central lesion, and he referred to a case of spastic paralysis with painful spasm which was recently under his care, and which was much relieved by the exhibition of Calabar bean.—Mr. GODLEE thought that several cases were on record in which sensation had rapidly returned after section of the median nerve, and this was possible owing to the abundant anastomoses. He mentioned a case in which, following the removal of a spina bifida, there was considerable drainage of cerebro-spinal fluid, and the patient gradually died; nothing was found at the necropsy to account for death.—Mr. BENNETT, in reply, said he was unable to classify the case until the full result of the histological investigation was known. The restoration of sensation was extraordinary, and, owing to the non-union of the roots, was derived from different fibres from those originally carrying it; he therefore thought the pain would not return because the sources of restoration were remote from the central point of irritation. No signs of locomotor ataxy were present, there was no wasting of muscles till after the operation, and the nerves were all found natural, except the long saphenous, which, being involved in a cicatrix, showed recent neuritis. Pain preceded the spasm. The patient died twelve days after the operation, but ascending degeneration took at least three weeks to be at all extensive, whereas the changes were already present high up in the cervical region. The vomiting appeared due to improper feeding; the kidneys were normal, and there was no lesion of cerebral structure found sufficient to account for the hæmorrhage.

MEDICAL SOCIETY OF LONDON.

Lateral Spinal Curvature.—Arrested Development of Arm.—Aortic Aneurysm.—Contracting Phthisical Cavities.—Bromide Rash.—Adult Pseudo-hypertrophic Paralysis.—Labial Epithelioma.

A CLINICAL EVENING of the above Society took place on April 15th, the President, Dr. Theodore Williams, being in the chair.

Mr. JOHN HOLM showed two cases illustrative of the effects of the Medico-Gymnastic Treatment (Ling's Swedish system). The first case was one of lateral spinal curvature in a young lady aged fifteen. The ordinary symptoms of commencing curvature were observed in 1887, when the patient was ordered a spinal instrument (exhibited), which she wore for three months without benefit. She came under Mr. Holm's care in May, 1888, when she exhibited marked right dorsal and left lumbar curvatures, with some degree of lordosis and rotation of the vertebræ. The outlines of the curvatures were well marked on the spine being flexed to the full extent. The scapulæ projected at their bases and inferior angles, assuming the wing-placed position, the right one being three-quarters of an inch lower than the left. The patient was placed under medico-gymnastic treatment for eight months, the exercises being directed especially to the muscles of the trunk including the abdominals and the psoæ and iliaci, with some tensive movements. The patient was now strong, and only an indication of the former deformity existed. The second case was one of inequality in length of the upper extremities consequent on arrested development, due to strumous disease of the bones of the left hand, in a girl aged eighteen. The patient suffered from spinal weakness, and was generally delicate. She was placed under medico-gymnastic treatment in March, 1888, when the difference in length of the extremities was five inches, the hand of the shortened limb being very weak and unable to stretch more than four notes on the piano. The difference in length was now only two inches and a half, and the hand could take the octave. The localised exercises had been of a combined active and passive character, and had been given for six months, although, with intervening periods, the treatment covered a year. The spinal weakness was now but slight, and the general health improved. The anterior chest measurement had increased one inch, with a corresponding diminution across the shoulders. The reduction of the difference in the length of the limbs was not in the slightest degree anticipated.—Mr. ADAMS said he adhered to the differentiation he made some years ago between physiological and structural curves: the former were quite curable by gymnastics; the latter were not.—Dr. BEEVOR thought any system of gymnastics would be equally efficient in curing such cases, where the limb was atrophied from the disuse consequent on the wrist disease.—Mr. HOLM agreed that no form of gymnastic treatment would cure spinal curves where ligamentous shortening and bone absorption had taken place, though they might be much benefited by appropriate means. The advantage of Ling's system was that particular muscles could be exercised.

The PRESIDENT exhibited an anomalous case of Aortic Aneurysm occurring in a man aged fifty-eight, who was admitted under his care in January of this year, with a history of old syphilis and gout and a right hemiplegia, from which complete recovery had taken place. The patient had suffered from bronchitis and asthma for ten years, and the dyspnœa had increased lately, and was marked by loud stridor accompanying inspiration and expiration. On admission to the Brompton Hospital the chest presented catarrhal sounds, but loud stridulous breathing was audible under the left clavicle and above the scapula. The heart sounds were normal, and the pulses and pupils equal. The arteries were atheromatous. Examination of the larynx showed swelling of the right vocal cord and ventricular band, with scarring of the pharynx, the result of old syphilis, but no signs of aneurysmal pressure. The subsequent examination revealed extension of the stridulous breathing to the right side of the chest, it being especially loud above and immediately below the clavicle, which was dull on percussion. The diagnosis was aneurysm of the ascending and transverse portions of the aorta pressing on the lower end of the trachea and left bronchus in an old syphilitic case. The extension of the physical signs indicated advance of the aneurysm in several directions, and attention was specially drawn to the contrast the stridor presented to that which pressure on the left recurrent laryngeal gave rise to, where the dyspnœa was intermittent, instead of, as in the present case, permanent.—Dr. PERCY KIDD said that when he examined the case three months before he came under Dr. Williams' care there was a loud aortic second sound, but no signs of aneurysm.—Dr. DE HAVILLAND HALL said that in such cases, if the aneurysm pressed on the trachea and involved the recurrent laryngeal as well, there was difficulty in gauging the amount of the obstruction. He related two cases in which dyspnœa from both causes combined existed, and in both he advised against tracheotomy. Pressure on one pneumogastric sometimes gave rise to bilateral cord paralysis.

Dr. WILLIAMS also showed a case of Contraction of Double Cavities in Advanced Phthisis. The patient was a billiard-marker, aged thirty-three, and was admitted into the Brompton Hospital on March 29th, 1889, and gave a

history of three years' cough, and expectoration with wasting for one year and a half. Slight hæmoptysis and night sweats developed during last winter, also occasional pain in upper right chest; but the chief complaint was dyspnœa, which had increased during the last twelve months. No family history of phthisis. There was marked drooping forwards of both shoulders, especially the left. The cough and expectoration were now slight. The physical signs showed in the right chest some flattening and undue resonance, and harsh breathing in front, extending to one inch and a half to the left of the sternum, from the clavicle to the third rib; posteriorly, there were dry cavernous sounds, with slight dulness above the right scapula. In the left chest there was flattening and dulness to the fourth rib in front, except over the resonant area above described. Cavernous sounds were audible on coughing in the first interspace and above the scapula, where there was also dulness. The heart was uncovered, and its impulse felt in the fifth space. Chest measurement at the level of the third rib showed the left side to be an inch and a half smaller than the right. The President alluded to a former paper of his in the Proceedings on the Contraction of Cavities in Phthisis, and brought this case forward as an example of some of the changes in the thorax, and the position of its organs produced thereby. The course of events was probably as follows: The left upper lobe was attacked; a cavity formed, and underwent contraction, giving rise to (1) uncovering of the heart and pericardium, (2) traction of the right lung across the median line, (3) flattening of the left upper chest, with (4) depression of the shoulder. The right apex was next attacked; a small cavity formed, which, from the depressed condition of the shoulder and the dryness of the sounds, appeared to be also undergoing contraction.

Dr. BEEVOR exhibited for Dr. Tooth a case of Bromide Rash. The child, aged fourteen months, was microcephalic, and suffered from fits; it had been taking bromide in five to ten grain doses three times a day since Jan. 27th. The rash commenced with acne-like spots, and then formed condylomatous inflammatory nodules. They had decreased since the bromide had been discontinued.—Dr. COLCOTT FOX said that bromide eruption frequently took on this type in children, the spots being at first discrete and then fusing and taking on a papillomatous appearance.—Dr. WILLIAMS remembered once giving bromide to a lady and producing a severe bromide rash. He asked why it should take this particular form in children.—Dr. BEEVOR, in reply, said that another form of bromide rash which was rarer resembled rupia. He did not think that people with nervous disease were especially subject to these eruptions.

Dr. BEEVOR also showed a case of Pseudo-hypertrophic Paralysis in an adult. It was that of a married man aged thirty-three, who had no history of syphilis. The onset occurred ten years ago with stiffness in the legs, and at the same time the arms and legs began to waste. He was under Dr. Kidd's care in 1881 (*vide* St. Bartholomew's Hospital Reports). He now had enlargement of the calves, but without much paralysis. There was wasting of the thighs and of the gluteal region, marked lordosis, and some enlargement of thighs and wasting of biceps and supinator longus, with absence of the lower half of the pectoralis major on either side, and of the latissimus dorsi. The serratus magnus was weak. The patient had great difficulty in getting off the ground, and the knee-jerks were absent, or nearly so.—Mr. ADAMS related several similar cases which were observed by him and recorded in Dr. Gowers' work on this disease; only four out of the eighteen cases he collected lived over the age of twenty years, the oldest dying at thirty-five.—Dr. KIDD said the enlargement of the triceps was more marked than when he saw the case. The vastus externus, which was now atrophied, was then very large. The pectorals and latissimi remained as they were.—Dr. KINGSTON FOWLER referred to the cases of two brothers who had been under his care. It was the first instance in which the disease occurring in members of the same family had developed late. The elder of the two had changed but little for the worse, but the younger was dead. He had since seen a boy aged two who was affected similarly, and he was the son of a sister of these two men. The distribution of the atrophy and pseudo-hypertrophy was the same as in the case shown, but in both his cases the masseters were affected.—Dr. BEEVOR, in reply, said that in his case there was no family history. It was different from ordinary pseudo-hypertrophy; he regarded it as midway between it and the upper arm type of paralysis; it commenced with atrophy, and therefore was a true myopathy, and it affected muscles not grouped together physiologically.

Mr. W. T. HASLAM gave details of a case of epithelioma of the face. The patient, fifty-four years of age, sustained a cut of the lower lip whilst being shaved four years before; the wound never properly healed; four months before admission it began to grow and ulcerate. When examined, the whole of the lower lip was found occupied by a foul epitheliomatous growth reaching down to the junction of the lip with the jaw, but not involving the latter; there were several secondary glands beneath the jaw. The glands were first excised by a transverse incision; the growth was then cut away, and the bar of tissue left between the two incisions dissected up over the prominence of the chin, and used to form a new lip. There were two recurrences; one six weeks after healing, and the other six months after this. Twenty-one months had since elapsed, and no further recurrence had taken place. He remarked on the great length of the pre-cancerous stage, on the rapidity of the growth when it did assume a malignant type, on the method of forming a new lip adapted to the particular case, on the recurrence in spite of what appeared to be a very free removal, on the impossibility of finding a covering for the bone at the last operation, and on the adaptability of the parts as shown by the result.—Mr. B. JESSETT said that the case showed the importance of dissecting out the lymphatics leading from the glands to the growth.—Mr. BALLANCE said that cases of successful operation for cancer were always of interest to surgeons; he had operated on several small growths, which had not recurred.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

AN ordinary meeting was held on March 28th, the President, Dr. J. W. Martin, in the chair.

Acute Peritonitis.—Dr. HUNT, in a short paper, advocated the treatment of acute peritonitis by saline purgatives, showing that in his hands, when this treatment was adopted at the outset of the attack, the result was highly beneficial.

Shawl-pin passed per anum.—Mr. S. MORTON showed a shawl-pin, two inches and a half long, which a patient, a woman, had swallowed and passed per anum at the lapse of seventeen days.

Raynaud's Disease.—Dr. PORTER exhibited a patient suffering from attacks of local asphyxia in both hands and feet, independently of exposure, sometimes three or four in a day, alternating with paroxysmal attacks of epigastric pain and vomiting, usually followed by slight jaundice. There was no hæmatinuria, though albumen as well as bile had been present in the urine after an attack; but no reaction could be obtained after the guaiacum test. In the interval the hands and feet usually recovered their own natural colour and warmth. The local syncopic and asphyxial stages were usually well defined. The palmar aspect of the fingers was affected throughout, but only the dorsal surface of the terminal phalanges and nails; the toes of both feet were involved on the under surface, but to a less marked extent than the fingers, which sometimes became almost black; no pain was complained of in the hands or feet during the attack. The patient's age was forty-eight; she was a married woman; had had the attacks in the fingers about four months, and had not suffered previously from cold fingers or chilblains, not being especially exposed to damp or cold. She never got her living by washing. She had nine children living. The catamenia was still regular. The family history was good. No rheumatism, gout, or ague; abdominal tenderness over epigastrium and left hypochondrium; field of vision good.

Chronic Lead Poisoning.—Mr. RUXTON, in introducing this subject, considered that the type of epilepsy caused by lead poisoning did not differ from the usual character of discharge from the higher cerebral centres, and that melancholia, with its almost constant symptoms of dread and suspicion, was in many cases accounted for by the disease of vessels secondary to chronic Bright's disease, defective cerebral nourishment thus resulting. He quoted a case of melancholia in support of insanity coming on after vascular changes had been established, the man ultimately presenting peculiarly and absolutely unilateral convulsions before death, which were found to be due, it was thought

to pressure and irritation of the right pyramidal tract in the pons, the left side of which was completely broken up by a recent hæmorrhage. He considered that wrist-drop could be best accounted for by cervical poliomyelitis.

Morbid Specimens.—Mr. W. MAKEIG JONES showed (1) Tumour of the Anterior Mediastinum (from a boy aged eighteen, who had been suffering for about fifteen months), dislocating forward the sternal end of the left clavicle, protruding between the fourth and fifth left costal cartilages, compressing the left subclavian artery, and eventually causing death by paralysis, from pressure on the cord. The tumour decreased very much during the inunction of mercurial ointment, increasing on its discontinuance, and decreasing again on its resumption. At the necropsy the growth was seen to fill the anterior and posterior mediastinum and upper half of the left lung. There was no erosion of the ribs of the vertebræ. The tumour was a spindle-celled sarcoma. (2) Cancer of Sigmoid Flexure. The age of the patient was forty-two. There were diarrhœa and increasing emaciation during six months, but no other physical signs. At the necropsy the great omentum and transverse colon were found studded with nodules, varying in size from that of a pea to an almond. At the junction of the sigmoid flexure there was no true ulceration, but the bowel was indurated and much contracted for a space of two inches. (3) Cancer of Ovary. The patient was sixty-two years of age. The tumour was on the right side, and had been slowly growing for nine months. Jaundice supervened three weeks before death. At the necropsy, the right ovary was found to be cystic, and was adherent to the bladder; the left was also cystic; the visceral peritoneum was studded with small growths, and there were extensive adhesions, especially of the large intestine, to the liver. Section of the ovary under the microscope showed appearance of cancer.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

A MEETING was held on March 14th, the President, Dr. Murphy, in the chair.

Dr. LIMONT exhibited a man suffering from Hæmatinuria, in whom a history of ague dating back seventeen years ago existed; a man, a lead packer, suffering from Double Wrist-drop; a man with Thoracic Aneurysm, cured three years ago, but in whom the disease had again returned; also a man suffering from Abdominal Aneurysm; in this latter, under the influence of iodide of potassium the aneurysm had diminished much in size.

A boy operated upon for Genu Valgum was shown by Mr. BLACK; and a woman whose left lower jaw had been excised for Sarcoma was shown by the PRESIDENT.

Dr. HUME exhibited a girl aged fourteen, part of whose Thyroid Gland he had removed. The patient had latterly suffered from constant dyspnœa, and was cyanotic. She had made a good recovery, and did not look in the least degree anæmic. The dangers of the operation and of interference with the thyroid were alluded to in the remarks made by Drs. Gowans, Oliver, and Drummond.

A new physical sign in Thoracic Aneurysm was demonstrated in a case exhibited by Dr. DRUMMOND. The two radial pulses were unequal, and during inspiration he had noticed that the right (the smaller) became quite equal to the left (the larger). During inspiration, he contended that pressure upon the aneurysm was relieved by the expansion of the chest.

A case of Excision of the Elbow-joint, with good result, was shown by Dr. GOWANS.

A case of Cauliflower Excrescence of the Larynx, requiring the performance of tracheotomy, was exhibited by Dr. ROBERTSON. Since the operation the patient had considerably improved.

A paper on Catheter Retention for Twenty-two Years was read by Dr. COLLIE. There was the usual history of gonorrhœa, followed by stricture, perineal abscess, and fistula. During all these years the patient had gone about with a soft catheter in his urethra, suffering from no bad effects whatever. From time to time he replaced the old by a new catheter.

Notes on a case of Pernicious Anæmia were read by Professor PHILIPSON. Arsenic had been followed by satisfactory results.

Other papers by Drs. Oliver, Drummond, and Robertson were taken as read.

The following specimens were shown:—

Dr. LIMONT: (1) Three specimens of Aneurysmal and Atheromatous Disease of the Aorta; (2) Heart and Lungs and the other contents of the Thorax from a case of Hodgkin's Disease; (3) Spleen and Liver from a case of Leucocythæmia; (4) Ovarian Cyst removed from a woman aged seventy-six by Mr. Page. Remarks were made on the latter specimen by Professor Philipson and Dr. Murphy.

Dr. OLIVER: (1) A Mediastinal Tumour from a boy aged fourteen; (2) a specimen in which a Tumour existed in the wall of the large intestine near the ileo-cæcal valve, causing intestinal obstruction.

Mr. BLACK: Upper Epiphysis of Femur, which he had removed.

The PRESIDENT: An Aneurysm arising from the transverse part of the Arch of the Aorta. No physical signs of aneurysm were detected during life—a point remarked upon by Drs. Oliver, Philipson, Coley, and Drummond.

Dr. DRUMMOND: A Calcareous Heart and Pericardium.

Dr. BRADLEY: An Umbilical Cord with a Knot upon it.

Notices of Books.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. BATTY TUKE, M.D., and G. SIMS WOODHEAD, M.D. Vol. I. Edinburgh and London: Young J. Pentland. 1889.—This volume more than meets the expectation of those who were interested in the recent foundation of a Pathological Laboratory by the Edinburgh Royal College of Physicians, for, notwithstanding the brief period since the institution was opened, it is evident that it has been put to good use, and that the workers therein have been industrious and painstaking. The reports open with some notes on the Equipment of the Laboratory, by Dr. Woodhead, the able superintendent. These show how admirably fitted is the building for all its purposes, which include not only original investigations, but the examination of specimens and analyses made for Fellows of the College and others. During the year twenty-two medical men have been engaged in original research in the building. Dr. Berry Hart and Mr. J. T. Carter contribute a paper on the Sectional Anatomy of Advanced Extra-uterine Gestation, which proved the extra-peritoneal character of the gestation that probably commenced in the right Fallopian tube. Three well-executed plates illustrate the text of this article, which forms a welcome contribution to an obscure subject. Dr. Woodhead has a paper on the Use of Mercuric Salts in Solution as Antiseptic Surgical Lotions, in which he urges the superiority of the biniodide over the perchloride, in that it is not so poisonous, that it does not form an albuminate, that it may be used with other acids or alkaloids, and other reasons, one important one being its remaining of constant strength. Dr. B. Hart discusses the Mechanism of Separation of the Placenta and Membranes during Labour, which he shows is initiated, on the relaxation of the uterus after the birth of the child, by the diminution in size of the placenta from the withdrawal of the fœtal blood, and a consequent disproportion in area of the placental site and the placenta itself. Dr. Alex. Bruce describes a case of Absence of the Corpus Callosum in the Human Brain, and appends a full abstract of recorded cases. The paper is copiously illustrated by many plates. Dr. Nasmyth furnishes a valuable report on the Air of Coal Mines, with fairly satisfactory result showing the efficiency of modern methods of ventilation. Mr. T. A. Helme, M.B., contributes Histological Observations on the Muscular Fibre and Connective Tissue of the Uterus during Pregnancy and the Puerperium. Dr. Macleod and Mr. Milles give their Observations on the Cholera Bacillus, with which our readers have been lately made familiar; and the volume also contains contributions by Dr. J. W. Martin on

Cystic Disease of the Ovaries, and by Mr. Irvine, F.C.S., and Dr. Woodhead on the Secretion of Lime by Animals. Dr. Woodhead also gives a full summary of his lectures on Tabes Mesenterica and Pulmonary Tuberculosis, delivered before the Grocers' Company in London last year. The volume is excellently printed and illustrated, and will, we trust, be the first of a long series of annual publications which will take a high rank among scientific reports.

Diabetes: its Cause and Permanent Cure. By EMIL SCHNÉE, M.D. Translated from the German by R. L. TAFEL, A.M., Ph.D. London: H. K. Lewis. 1889.—A work with the above title ought to attract attention. The "permanent cure" of a disease which has hitherto been regarded as incurable, although capable of alleviation, is a sufficiently bold assertion to render it incumbent on the critic to study attentively the reasoning offered in its support. We have done this, and confessedly are disappointed. For what does it all amount to? Simply this. The author has long been convinced (how or why he does not explain) that diabetes is due to hereditary lues venerea—not necessarily transmitted from the immediate progenitor, but from even more remote ancestors! As a consequence the whole of the protoplasmic elements of the body are vitiated, and all that has to be done is to effect "a transformation of the protoplasm" (!)—a task which to the unsophisticated would appear more formidable than it does to our author. He thinks that Ebstein's views, which did not do more than emphasise the fact of individual predisposition to the disease founded on a physiological study of tissue-metabolism, are confirmatory of his thesis that syphilis (lues) is at the root of all diabetes. We venture to think that such a conclusion will not be accepted by the profession at large without far more evidence than is vouchsafed by Dr. Schnée, in spite of his dogmatic utterances and slightly veiled contempt for all previous writers on the subject. Nor is it easy to discover in what material degree his therapeutics differ from those mostly adopted. His dietetic regimen is in accordance with prevalent teaching, and his rejection of most forms of drug treatment not novel. But we ought, perhaps, to add that he lays store by mercury, chromate of potassium, and Carlsbad waters, upon the efficacy of which latter his position at Carlsbad should entitle him to speak. Although the author cites cases in which he has cured diabetes, it will, as we have said, need more facts than he furnishes to convince the profession that he is on the right track. It is a pity, too, that the translation is not more technical.

On the Influence of Carbonic Anhydride and other Gases in the Development of Micro-organisms. By PERCY F. FRANKLAND, Ph.D., B.Sc. Lond., &c., Professor of Chemistry in University College, Dundee. Reprinted from the Proceedings of the Royal Society.—Professor Percy Frankland, who in zeal and scientific acumen is following in his father's footsteps, here presents the results he has obtained by plate cultivation of several well-known organisms in certain gases. The organisms selected were: (1) Bacillus pyocyaneus, (2) Koch's comma spirillum, and (3) Finkler's comma spirillum, all procured from the Hygienic Institute in Berlin. By ingenious management these organisms were presented to gelatine plates in atmospheres of hydrogen, carbonic anhydride, carbonic oxide, nitrous oxide, nitric oxide, sulphuretted hydrogen, and sulphurous anhydride. The result of the experiments showed that hydrogen had the least deleterious effect on the organisms; carbonic anhydride had a very great effect; while nitric oxide, sulphuretted hydrogen, and sulphurous anhydride were deadly, and destroyed the life of all the organisms upon which experiments were made. These experiments tend to confirm the previous belief that carbonic aeration is a safeguard to drinking-water, and to establish more firmly than before the value of sulphurous acid as a disinfectant. It is true that nitric oxide and sulphuretted hydrogen are shown to be of equal efficacy, but neither of these can have practical value for sanitary purposes.

Looking Backward. A.D. 2000–1887. By EDWARD BELLAMY. Seventeenth Edition. London: W. Reeves.—This is a very clever little book, exceedingly well written, and, to judge from the fact of its having reached its seventeenth edition (!), must have aroused considerable interest in the minds of a large number of the reading public. Its author is supposed to have awakened from a trance extending over more than a hundred years, to find himself amidst a society in which the State transacts all the business of the nation without trenching on the liberty of the individual, in which the waste arising from pitiless competition is avoided, every citizen is directed and trained to the work for which he is fitted, temptations to idleness or to luxury are removed, and the extremes of wealth and poverty accordingly unknown. The benefits of national co-operation are depicted in glowing colours; in fact, a millennial condition of happiness and content is portrayed which is calculated to make every lover of his species ardently wish it were possible of realisation. Whether it be so or not, we are of opinion that books of this kind do good by directing increased attention to the many acknowledged evils of social life, and stimulating thought towards feasible methods of removing or at least ameliorating them.

A Compend of Obstetrics. By HENRY G. LANDIS, M.D. Fourth Edition.—This is, in fact, a catechism of obstetrics, intended to embody the principal facts of the subject. As a cram-book it would be likely to be disastrous to the student who had not properly learnt the subject; as a reminder of the principal facts it might be useful. In such a book a writer must necessarily be dogmatic, and if we do not always agree with his dogmas, the book contains much with which we do agree. Of a fourth edition no further criticism is necessary.

CAN PNEUMONIA BE CUT SHORT BY ANTIPYRIN?

To the Editors of THE LANCET.

SIRS,—The questions raised by Mr. Counsell in THE LANCET of April 13th are of such importance that they deserve careful consideration and a reply. He records a case which he believes to have been one of pneumonia, and he hints that he cut short the course of the disease by giving antipyrin.

The questions Mr. Counsell asks are—whether the case he records was one of pneumonia, and whether pneumonia ever "aborts" without treatment. In answer to the first question, I should say that he has not brought forward sufficient evidence to prove that his case was one of pneumonia. It is, to say the least, extremely rare for a patient to have that disease three times in four years, and the physical signs in the third attack (which is the only one which he records in detail) are not incompatible with a different diagnosis.

With regard to the second question, Does pneumonia ever abort without treatment?—of course the meaning of the question depends on what is understood by the term "abort." If it be implied that pneumonia always runs a definite course with regard to time, and that recovery at an earlier period is "abortion," from my own experience I can say with confidence that pneumonia may "abort" without treatment, because I have noticed that the time during which the disease lasts is very indefinite. And in the case of a disease which does not last a definite number of days, it is unscientific and erroneous to conclude that the disease has been cut short because a fashionable drug has been given to the patient.—I am, Sirs, yours truly,

RICHARD SISLEY, M.B., M.R.C.P.Lond.,
Medical Registrar and late Curator of the Museum of St. George's Hospital.

April, 1889.

THE LANCET.

LONDON: SATURDAY, APRIL 27, 1889.

DR. NORMAN MOORE, the Warden of St. Bartholomew's Hospital College, has drawn prominent attention, in a circular just issued, to the course to be pursued by students who enter, as they are now doing in increasing numbers, the medical school in May rather than in October. Dr. MOORE's recommendations are based upon the scheme of examinations of the Conjoint Board. The advice given is not novel, for it is laid down in the curricula of other medical schools; but it is here very clearly stated, and indicates the course which such a student may be compelled to adopt. It is assumed that he has not taken advantage (and few do) of the permission to pass the examinations of the Examining Board in Chemistry and Materia Medica before entering at a medical school. His first duty, then, must be to devote himself to Chemistry; and if, as Dr. MOORE advises, he only pay attention to this one subject, theoretical and practical, and the cognate branches of Chemical Physics, he may obtain sufficient knowledge to pass the examination in these subjects at the end of the first summer session. Teachers and lecturers upon Chemistry may demur to the inference conveyed herein—viz., that the short period of three months is sufficient for a student to be grounded in the subject; but there appears no escape from such a conclusion in the present system. A remedy will never be found until, in addition to a preliminary examination in Arts, there be required of the intending medical student a further year's probation in Science, and we should welcome the establishment of such a regulation by the General Medical Council. The Medical School should be dissociated from the Science School; Science should take its rightful place as the foundation of medical study, and not be compressed into ten or twelve weeks' cramming of Chemistry. However, we have to deal with facts as they are, and the important subject of Chemistry *must* be got rid of by the student before he takes up Anatomy and Physiology, or else he runs the risk of dislocating the natural order of things, and, what to him is of chief importance, of failing to pass his examinations as they fall due. Dr. MOORE'S recommendation to defer Materia Medica and Pharmacy to the second summer session is another point of importance. It is a serious question whether the Examining Board do well to invite students to take these subjects as part of their First Examination. Many attempt to do so at the end of their first summer session, or at the examinations intervening between that period and the same in the following year, and the results are not encouraging. Materia Medica does comprise something more than a catalogue of names and properties; it can only be taught with reference to the action of remedies, and in however a simple manner this knowledge may be imparted it must be bewildering to the freshman, who not only knows nothing of disease, but is unacquainted with the healthy working and the structure of the human body. He will have gained some insight into the latter after his first winter course; but he would not lose much were he to defer even to a later period still his preparation for an examination in Materia Medica. He would still be able to pursue Practical Physiology during his second summer session; and, if we may judge from the recent results of the Second Examination, his devotion to Physiology would not be misspent. Seriously, there must be a defect somewhere to explain the high rate of rejection in Physiology at this last examination; otherwise it is inconceivable that at the end of their second winter so large a proportion of students should have been found deficient in that amount of physiology which can be fairly required of any aspirant to a medical qualification. However, this has nothing to do with Dr. MOORE'S advice, unless it be that passage where he says, "At the end of his second winter session to pass the Second Examination of the Examining Board in Anatomy and Physiology." To many, we fear, these words must seem strangely ironical. The problem is, Are our students becoming more idle, are the teachers relaxing their efforts, or are the examiners raising their requirements? There is no escape from one or other of these conclusions, and it might be well here also if the Medical Council, which has to do with education, were to endeavour to ascertain which is the right one.

WITHIN the last few years many persons, adults as well as children, have been murdered by poison, the motive for the crime being the sum obtained from insurance societies or burial clubs. Sometimes the deceased has been a consenting party to his entrance into the club or to his insurance; in other cases, notably those of children, the insurance or entry into the club has been effected without the deceased's knowledge. The worst feature of these cases is that they seldom occur singly, and society is indebted for their discovery to the fascination which poisoning possesses to those who once practise it, inducing them to repeat the crime until suspicion is aroused, and an inquiry before a magistrate or coroner is the result. This has been in too many instances followed by the exhumation of one or more bodies buried with medical certificates stating some natural disease as the cause of death, whereas later on chemical analysis revealed poison as the real cause in all the cases. Such instances tend to shake public confidence in the medical profession, since a knowledge of the symptoms of poisoning is supposed to be part of every medical practitioner's acquirements. Unfortunately, not only are the public, but also coroners, magistrates, and public prosecutors, totally ignorant of the difficulties with which general practitioners have to contend in cases of suspected poisoning. Let us suppose that one in full general practice has his suspicions aroused in a case which comes under his observation. Most probably the person on whom suspicion would fall is the very person who has called him in, and to whom he looks for remuneration. If the medical attendant is too precipitate, the would-be poisoner (than whom no criminal is more cunning) can easily remove all trace of poison and thwart the securing of vomited matters, urine, fæces, &c. On the other hand, delay may cause death. A consultation with a brother practitioner, however comforting it may be, has the double drawback of being liable to interpretation as an admission of ignorance and of exciting suspicions. We also recall the annoyance which practitioners suffer by having

to attend at police-court and inquest, the making of post-mortem examinations, and attendance at the assizes, with inconvenience to themselves quite indescribable, and at a remuneration which leaves them actually out of pocket. This is supposing that their suspicions have been proved to be correct. But what are the results if they prove unfounded? They not only lose their patients, but also, to a certain extent, their reputation, and incur an odium sufficient to cool any ardent suspicions of the future. Still, the old saying, "Fiat justicia ruat cœlum," holds good here as elsewhere; and it has been always the pride of medical practitioners that they do their duty to their patients regardless of their own interests. When his suspicions are aroused by symptoms suggestive of poison, such as their sudden onset, their intermittent character, their difference from symptoms of natural disease, it is clearly the duty of the medical attendant to verify his suspicions by making proper inquiries, which, if care be taken, will not defeat their object by arousing suspicion in the minds of the patient and attendants. An examination of the urine is now usually made in all cases of acute disease, and a very simple test will reveal the ordinary mineral poisons. Some of the alkaloids may be detected in the urine, and there is no analytical chemist who would not help a practitioner in a difficult case. Our police and detective force afford an excellent means of making inquiries without necessarily exciting suspicion, and in the event of death the coroner's officer can easily collect evidence sufficient to confirm or allay the suspicions of the medical attendant. Long before suspicion has arisen in the doctor's mind, it has probably been present in the minds of female neighbours, who are aware of the motive in the shape of insurance or burial club money, which the doctor is not. A clever detective or inspector in plain clothes would soon provide his superintendent with evidence enough to justify the doctor's suspicions in a clear case, and the latter would then be relieved of all save professional responsibility. That the foregoing remarks are justified may be judged by the following numbers. In the Liverpool poisonings (1884) there were in all eleven victims; in the Ashton cases three; in the Oldham cases two, if not more; in another case two; and in a recent case now *sub judice* there were two cases of alleged death from poisoning, one case of alleged attempted murder by poison, and one of attempted suicide.

IT is now nearly three months since we welcomed Dr. SEATON'S proposal to consider under what conditions the fever hospitals of the Metropolitan Asylums Board could be utilised for the education of students. It will be remembered that, when the suggestion was made before the Royal College of Physicians, it at once received due recognition of its importance by the appointment of a large representative committee, drawn mainly from the different London medical schools. The arguments adduced by Dr. SEATON and Dr. SAMUEL WEST left little doubt as to the desirability of facilitating clinical study in the fever hospitals; but it was felt that there were likely to be difficulties in the way, and that these difficulties were not to be lightly overcome by the mere expression of opinion of the Fellows of the Royal College of Physicians, however strongly it might be worded. This committee has held several meetings, and has now presented its report. The first feeling upon reading it is that, for the present at least, the questions proposed for consideration have not been solved. The committee was asked whether, and in what way, the fever hospitals could be made available for clinical study. The report does not go beyond an expression of belief that, with the co-operation of the Local Government Board and the Asylums Board, the necessary arrangements could be made. No scheme for carrying the project into effect is proposed; indeed, it is definitely stated that this is reserved for submission at a future meeting, and for the rest the report merely reiterates in emphatic terms the importance of the study of fevers, on grounds both of public health and of medical education, and then refers to the technical difficulties in the way of the fever hospitals being used for the purposes of clinical instruction. These difficulties were from the first probably present to the minds of most of those who recognised the importance of this question; indeed, we referred on a former occasion to the probable need of some special conditions for the admission of students. It is in no sense desirable that the fever hospitals should be utilised for the purposes of elementary studies. To obtain the full benefit from them, students must already have reached a tolerably advanced stage, they must have gone through the ordinary routine of ward work in a general hospital, and they must possess a certain knowledge both of a theoretical and practical character. It is also desirable that they should have shown in a general hospital their amenability to discipline before being allowed to undertake any work in a more essentially public institution. Of the need of the adoption of measures to allay public anxiety against the risks of infection from students engaged in the fever hospitals during a portion of the day we feel sure that the committee are fully sensible, and we anticipate that their scheme will be found to deal carefully with this matter.

In the course of the explanatory discussion which preceded the adoption of the report, it was pointed out by Dr. GEE that the whole question was one which must be taken up by the Local Government Board and the Asylums Board before it could be worth while to discuss any matters of detail. Unsatisfactory as it may appear at first sight, the report of the committee really goes as far towards answering the questions propounded as, under the present regulations, expediency will allow. It is now some twenty years since students were formally excluded from the fever hospitals; hence the only possible answer to "whether, and, if so, in what way," they can be admitted is to urge the desirability of securing the co-operation of the Local Government Board and the Asylums Board. Until this is obtained, any detailed scheme might be considered as unwarrantable outside interference, and might be resented accordingly; but with this co-operation, a scheme which had been prepared as the result of joint action could be brought before Parliament with much greater force, and with much more likelihood of obtaining the desired permission to study. It would perhaps be rash to attempt to predict the course which will be taken by the Local Government Board and the Asylums Board; but there cannot be any doubt that they will receive with due consideration representations which have been made so

emphatically and so unanimously. The College of Physicians, having duly inquired into the matter, feels that no insuperable obstacles bar the way, and, in full knowledge of the nature of the objections likely to be urged, still presses the importance of rendering these hospitals available for clinical study, and waits until this has been generally recognised before formulating any rules to be observed by students while engaged at the fever hospitals.

THERE are one or two things in the Budget which are of interest to us. First of these, and by far the most important, is the evidence afforded in Mr. GOSCHEN'S speech of that steady growth of national temperance which old men all testify to be taking place, but which young men, who only see what enormous quantities of alcohol still go down human throats in one form or another, find it hard to believe. True, the Exchequer gets only five millions from what Mr. GOSCHEN calls "sober drinks," and nearly twenty-seven millions from intoxicating drinks; but even so we are spending less on the latter as the years go on, and that in spite of two conditions which should lead to an increase—a distinct revival of trade and an increasing population. When there are more people to drink and they have more money to spend, and yet the duty paid on drink is £63,000 less than in the previous year, we may confidently believe that the deep national belief in the virtues of alcohol born of excessive drinking for nineteen centuries is at last yielding to reason and to the evidence of medical science. Every kind of drink but light wines and foreign spirits and beer shows a decline. The revenue from British spirits is £151,000 less than the receipts for last year, and £73,000 less than the estimate. In 1876 (a very thirsty year) the consumption of wine was 17,000,000 gallons. In the present year it has fallen to 13,000,000. The decline is in the stronger wines. The consumption of the lighter wines has actually increased from four to eight millions. Mr. GOSCHEN remarked on what must have struck most men—the notable diminution of wine drunk after dinner; and was disposed to explain it by the quick resort to the cigarette, which checked the circulation of the decanter. This may be one of the reasons, but we regard the fact rather as a part of the general increased temperance of the community, based largely on an intelligent perception of its advantages and on an acceptance of the constant teaching of medical men, that the conventional moderation of past times has been a real excess, productive of much physical inconvenience and disease, which may be easily avoided. We have no objection to offer to Mr. GOSCHEN'S infinitesimal addition to the duty on beer, amounting only to one-fourteenth of a penny on a gallon. It will not add practically to the price of beer, and even if it did, and reduced the consumption of this popular beverage, no harm would be done. The alcohol in it is of course much diluted. But there is far too much drunk. It fattens rather than feeds, and is a fruitful source of dyspepsia, rheumatism, gout, and all the associated train of symptoms. The Chancellor of the Exchequer calls these facts good news for the friends of temperance, and says they make a gap in his receipts. We can only hope that the gap will grow larger, and that his embarrassment may increase from year to year. We may safely trust him and his successors to hit upon other expedients for raising indirect taxation from a more sober community, which by its greater sobriety will have become far more capable of contributing to the necessary expenses of the nation, and less burdensome to the State in the way of charges for pauperism and crime. That was a terrible statement of Mr. JOHN MORLEY in his speech at Newcastle on Monday, at the Amalgamated Society of Engineers, that nearly half of all persons over sixty in this country are either paupers or have been so, and alcohol makes paupers as surely as it leads to gout and cirrhosis. We must not omit to notice that other articles of popular consumption besides intoxicating drinks seem to have reached for the present their maximum popularity. Tobacco shows an increase, but not so great as was expected. Coffee is dull; though cocoa has given the Exchequer £6000 more than last year, which the Chancellor attributes chiefly to the fact of its being advertised more freely. Even tea, which yields the splendid sum of £4,628,000 to the Exchequer, only increased the yield by £15,000. All this shows that the increasing sobriety of the nation goes beyond the mere question of alcohol, and extends to beneficent drinks, which may, however, be abused, as afternoon tea-drinking probably has been of late.

Annotations.

"Ne quid nimis."

THE FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS.

THE annual election of Members of the College of Physicians to the Fellowship will take place next week, and doubtless the rule which has rarely been departed from will obtain—viz., the confirmation by the Comitia of the choice of the Council. The Fellows have the opportunity of nominating, but the Council select the list, and hence the suggestion made by the President in his address last week is one of especial value. He intimated the desirability of the junior Fellows being directly represented upon the Council, and since it is amongst them that the fullest knowledge must obtain of the work being done by many of those who are eligible for the Fellowship, such representation would have direct bearing upon one of the most responsible duties that the Council has to perform. At various times attempts have been made to alter the mode of election, but looking to the constitution of the College and the relations which the Fellows have with its government, the system in vogue meets fairly well the necessities of the case. Moreover, the Fellows have the power of veto, which they have sometimes exercised, and the Council must occasionally feel the need of more guidance in their selection than they possess or have the means of obtaining. With a junior Fellow upon the Council there might on such rare occasions be the means of arriving at a just decision in balancing the claims of nominated candidates. Whether the substitution of a system of open nomination for the present plan would further conduce to a wise selection is a question for the Fellows to consider. It might or might not be, according to the spirit in which the Fellows would append their signatures to a proposal, and we can conceive of such a plan failing to succeed in securing the election of those whose character and work mark them as worthy of promotion.

SUCCESSFUL PROSECUTION FOR FALSE DEATH-CERTIFICATION.

A MOST important prosecution, at the instigation of the Registrar-General, is reported from Birmingham, of one Andrew Anderson, described as a medical assistant. He was summoned for giving a false medical certificate concerning the death of Mary Ann Guest, the wife of a jeweller, living in St. George's-street. The defendant was not a qualified medical man, and not therefore entitled to write certificates of death or any other medical certificates. He attended Mrs. Guest, and after death wrote a medical certificate, and signed it with the name of a medical man who was called to give evidence. The evidence of the latter was not very satisfactory, though he denied having ever given any authority to the defendant to sign death certificates, or that he ever left them signed and ready to be filled up by others. He had not seen the deceased patient, having been away from March 27th to April 4th. The patient died on April 1st. On the other hand, he admitted that he and the defendant occupied the same premises, that he knew him, and that he (the witness) was practising there, or had been. Anderson's defence was twofold—that he did not know the laws of medical registration, or the necessity of having the certificates signed by a medical man, though he had been connected with a surgery for many years. Mr. Weekes (of Hawkes, Weekes, and Howlett, and deputy coroner to Mr. Hawkes) was proceeding to prove that this was part of an extensive system in Birmingham, where there was a nefarious nest of unqualified men, but he was somewhat unfortunately kept strictly to the case of Anderson. He said, however, that he could prove that in the course of four weeks, of seven certificates which came to one registrar, five were absolutely fraudulent. From the number of unqualified men, there might be "thousands" of certificates of the same nature. This is a grave public question, and may cover very serious miseries and tragedies, especially among the poor. The magistrates fined Anderson £10, and in default ordered two months' imprisonment. They expressed the opinion that too much laxity is shown in distributing death certificates by registrars, and that there is a want of care at head-quarters. Let us be thankful, however, that a disgraceful system has been so far exposed, and that the Registrar-General has done his duty in the exposure. Much yet remains to be done. The exposure shows the need of continued vigilance on his part, as well as on the part of the General Medical Council in investigating the share borne by registered medical men in countenancing such a system. It is gratifying to find that the local press seems fully alive to the importance of the question, and grateful to the coroner and his deputy for further exposing the system.

TECHNICAL EDUCATION IN THE METROPOLIS.

THE report of the Charity Commissioners will this year be read with unusual interest by reason of the large and practical way in which it deals with the problem of technical education in the metropolis. The words "technical education" as used by the Commissioners have, indeed, a very precise if somewhat limited meaning. In their report the term does not signify that cultivation of the faculties, as distinct from the storing of the mind, which many educationalists employ the term to mean; but it covers the class study of industrial subjects—the applied science of the workshop and the practice of handicrafts, which have now come to be the recognised specialty of the "Polytechnic Institution." To the policy of these institutions and the method of class instruction in various trades the Commissioners are fully committed; and as they are about to devote very large sums of money to the development of their plans, we sincerely hope that they will succeed. We confess, for our own part, to a certain amount of misgiving under this head. It seems to us that as a training ground for practical workmen the workshop possesses enormous advantages over any mere school. It seldom happens, for example, that the points which are most interesting to teacher and pupil alike, and which therefore probably receive the largest measure of attention in the curriculum of a school, and certainly produce the strongest impression upon its *alumni*, are those which are of greatest practical importance. We can, for instance, easily understand how sadly inefficient a medical school would be in which the education of students was divorced from hospital practice; and, although in the simpler education of the handicraftsman the difficulty would not assume the same proportions, we much suspect that the vices of pedagogy would seriously detract from the value of the work which any school so constituted as the proposed polytechnics can accomplish. But there is a more serious defect still which we foresee in the working of these projected schools, and it is this: they will tend to disturb the relation of demand and supply of men to the trades which they affect. An employer of labour does not overfill his workshop with supernumerary apprentices, and therefore there is a fair prospect that a trade supplied with recruits in this way will be able to find room for all comers; but there is no reason why a successful school should not draft an indefinite number of candidates into a given trade, and produce in proportion to its success all the miseries of overcrowding. These considerations seriously modify the satisfaction with which we view the Charity Commissioners' great experiment; still we gladly recognise the comprehensive and thorough manner in which their scheme has been worked out. It comprises intermediate schools for carrying over the period of adolescence which intervenes between a lad's leaving the elementary school and arriving at the age to enter the technical school, and also the formation of working men's and working women's colleges for affording facilities for *dilettante* study and intellectual intercourse to persons whose taste leads them to seek such opportunities. This part of their scheme commands our fullest sympathy and confidence, and will, we hope, largely promote the well-being of the working classes, not only by means of the provision actually made, but also by the force of a good example conspicuously exhibited.

THE ETIOLOGY OF TETANUS.

ACCORDING to Dr. Lampiasi, writing in an Italian medical journal, clinical, anatomico-pathological, and experimental studies unite to prove that tetanus is a specific infectious disease, and the result of the bacteriological studies made down to the present time is to show that the cause of this malady is the action of a filamentous bacillus provided with a small terminal spore, although it has not been possible to obtain specimens from pure cultivation. Bearing in mind the labours undertaken, especially during the last few years, in connexion with this subject, Dr. Lampiasi has himself carried out some experimental investigations in the bacteriological laboratory of Trapani, the material for study having been found in the person of a man affected with idiopathic tetanus, and in two mules showing signs of the same disease. He inoculated various culture media with blood taken during life and after death, also with matter scraped from the grey and white substances of the spinal cord of the man affected with tetanus. From many of these cultivations he was able to obtain a micro-organism which in its vegetative period assumes the bacillary form. This bacillus, fully developed, is straight, occasionally curved, sometimes in segments, cylindrical, with the extremities rounded, but slightly pointed, and bearing a large spore. With the products of

the artificial cultivation of this micro-organism he has practised inoculation on many animals (rabbits, two lambs, and one mule), and, from the morbid phenomena observed in these, it would appear that it is possible to obtain tetanus in various clinical forms, resembling both idiopathic and traumatic tetanus. Hence he believes he can deduce the following conclusions from his observations: that the micro-organism of tetanus is a specific bacillus, identical in shape both in man and in the equine species; that from the inoculations of the blood of man, as of animals affected with tetanus, pure cultures of the micro-organism of tetanus may be obtained; and that idiopathic, and in all probability traumatic, tetanus is produced by the same micro-organism as that which caused the affection in the above mentioned experiments.

HOSPITAL APPOINTMENTS.

THE restriction by which the medical officers of the Royal Infirmary of Edinburgh and the Royal Public Dispensary of Edinburgh are obliged to possess the Fellowship of the Royal College of Physicians is still in force. It has been, as our readers know, the subject of remonstrance in the General Council of the University of Edinburgh, but a recent discussion in the Council shows that the remonstrance has been ineffectual. The bodies in question reply to the Council that they are bound by their charters and by resolutions of the managers to require the possession by candidates of the Fellowship of the College. There seems to be some doubt about the accuracy of this view. Dr. Haddon said he had read the Charter, and it did not contain one word with regard to the qualifications which the physicians of the infirmary ought to hold. For the rule of the infirmary on this subject he could find no other basis than a resolution of the managers in 1738. This is a matter of fact about which there should be no doubt or uncertainty. In any case, the restriction of qualification to Fellows of the College of Physicians of Edinburgh is contrary to the liberal spirit of the age and to the best interests of the infirmary. It would exclude Sir William Jenner or Sir William Gull. It must be admitted that London is in a somewhat similar position—but with differences,—the Membership of the College of Physicians being the essential qualification for the physicianship of most of the London hospitals. This College, however, to a great extent, justifies its claim to a special prerogative by a strict insistance on the maintenance of professional dignity and honour by its Fellows and Members. The Universities unfortunately do not possess, and therefore cannot exercise, such powers; but as the Edinburgh College of Physicians seem somewhat heedless in such matters—as evidenced by certain posters which disfigure the walls of our chief cities—we fail to see why they should claim a monopoly with regard to Edinburgh hospital and infirmary appointments.

LEPROSY AND THE STATE.

THE need for a renewed investigation into leprosy and its contagiousness is becoming imperative; and we are glad to see that the College of Physicians are prepared to urge the matter upon the Government, for it is a question that vitally concerns the interests of the empire. If, as some assert, leprosy be spreading in certain of our colonial possessions, it is incumbent on the State to determine why so frightful a scourge occurs, and to take the best possible counsel as to the measures to prevent its ravages. What is required is not merely the perusal of reports, but the actual study of the disease in the affected districts, and the circumstances under which it occurs. It would cost money, but is this empire so poor or so selfish as to be unable or unwilling to devote some of ts resources to a work which is of practical humanitarian interest as well as of scientific importance? Meanwhile, there is good work being done in leper asylums under British dominion. The report of one such institution, small though it be, lies before us. It is that of the Asylum of Lepers, at Dehra Dun, North-West Provinces, India, and is issued by Surgeon-Major Maclaren, M.D. The statistics it contains clearly show that by enforcing the segregation of the sexes this asylum has, during the past ten years, wrought a great benefit to the district. Dr. Maclaren calculates that it has prevented a probable increase in this period of at least 70, and possibly of as many as 120 cases; and he pertinently remarks that with 1000 such institutions throughout India the disease might eventually become as rare as it is in Europe. For there is no known remedy for the disease. Prevention alone can cope with it.

BROMIDE OF ETHYL AS AN ANÆSTHETIC.

BROMIDE OF ETHYL, $C_2H_5Br.$, which was recommended as an anæsthetic in dental practice by Herr Schneider, dentist to the German Emperor, at the Munich Odontological Congress held last year, has since that time been employed in a large number of cases by Dr. Friederich Herz, a dental surgeon in Vienna, who contributes an interesting paper on the subject to the *Internationale Klinische Rundschau* of April 14th. He uses a simple inhaler like that of Skinner, with some cotton-wool inserted to soak up the bromide of ethyl, of which he pours in about half an ounce at first, adding a little more afterwards if required. In some cases less than seventy-five grains proved sufficient. Anæsthesia came on rapidly, usually in one or two minutes, and then was sufficient for from five to eight extractions. The patients took the bromide far better than chloroform or ether, neither struggling so much nor presenting any unpleasant symptoms after waking up. Some patients, who had previously suffered a good deal from ether, expressed themselves as highly delighted with the new drug. Dr. Herz has not tried the bromide on young children, but he thinks it will be found very suitable for them, in consequence of its not unpleasant taste and the simplicity of the apparatus required. How far bromide of ethyl would be applicable in important operations cannot as yet be stated. Blum of Bamberg, however, repeated the inhalation at a single sitting, and was enabled to extract thirty-two very firmly set roots. It may be mentioned that, according to Lewin, bromide of ethyl does not induce paralysis of the heart.

HAIR DYEING AMONG WORKING PEOPLE.

IF current reports are to be believed, the practice of dyeing the hair is not merely the resource of a few sensitive persons, but has become somewhat widely popular, and is ruled by far more practical considerations than a wish to seem attractive. Working women, and even men, it appears, are given to decorating themselves in this way as a mere matter of necessity, and in order to earn their living. Grey hair looks aged, and suggests inefficiency; or perhaps it does not, for some other reason, satisfy the fancy of critical customers; consequently it is not in favour with employers. Hair dyeing has therefore become an established custom. Vigour, even youth, will not always excuse the defect, though, as is well known, greyness is in a multitude of cases no true sign either of age or of weakness. Such a state of matters may by some be condoned as being expedient. To our mind this is not enough. There must be something bad and unhealthy about a system which condemns an applicant for work on what is often a wholly deceptive point in personal appearance. Where grey hair is clearly a mark of senile failure the case is different. Rejection is often inevitable, though the facility of imposture

by means of a dye proves the need of more efficient tests. The refusal of candidates physically capable on this ground alone is, on the other hand, simply a barbarity of taste. One can readily sympathise with persons thus virtually forced in self-defence to practise deceit. A variety of hair dyes are in common use. Lime, lead, ammonia, copper, nitrate of silver, and other matters enter into their composition. Their effect as local applications is far from innocuous, though most of those who use them know and care little about their specific actions. It is therefore to be hoped, for this reason also, that a sensible considerateness on the part of employers will render needless a habit the increase of which is equally discreditable to business custom, taste, and a reputation for honesty.

PROFESSOR KREMIANSKI ON TUBERCLE BACILLI.

PROFESSOR KREMIANSKI of Kharkoff, whose name is known in connexion with the so-called aniline treatment of phthisis, has just published, in conjunction with Dr. Tseslinski, an article in the *Meditsinskoë Obozrênie* on the importance of frequent microscopical examination of the sputum both for diagnostic and for therapeutic purposes in cases where phthisis is or may be present. The patients examined amounted to 931, and they were most of them seen in Professor Kremianski's polyclinic or out-patient department, something like 10,000 microscopical observations having been made during the course of the last two years. In addition, very thorough physical examinations were carred out, not merely by means of the stethoscope, but with the help of the spirometer, manometer, thoracometer, thermometer, and weighing machine. As far as possible, too, very complete notes were taken of the effects of different remedies. Of the 931 cases, tubercle bacilli were found in 570, or in 61 per cent., including cases of the most diverse description, some having cavities, some apex consolidation, and some merely signs of bronchitis or broncho-pleuritis. Thus, of the 570 cases presenting bacilli, 220, or 38 per cent., had cavities; 229, or 40 per cent., had apex consolidation; 19, or 3 per cent., had simple "bronchitis"; and 5, or 0·8 per cent., had "broncho-pleuritis." A considerable number (97) of the cases were sent by medical men to have the sputum examined for the purpose of diagnosis. It was by no means uncommon to find a complete absence of bacilli in the sputum of patients presenting the clearest physical signs of phthisis—consolidation and even cavities. Of 238 patients with cavities, bacilli were absent in 18, or in 7 per cent. Of 419 cases of consolidation, bacilli were absent in 190, or in 45 per cent. Of 54 cases of "bronchitis" they were only absent in 35, or in 65 per cent. Bacilli were never found in cases of uncomplicated emphysema—i.e., where there were no cavities or consolidation in addition. With regard to Professor Kremianski's special method of treatment, while it was only successful in entirely arresting the development of bacilli in about 30 cases, it produced a cessation of the ordinary symptoms of phthisis—cough, debility, fever, sweats, &c.—in about 300 cases.

THE ANIMALS' INSTITUTE.

AN extension of the hospital system which provides for the treatment of domestic animals, and copies in every essential particular the procedure of our great medical charities, may at first sight present an aspect of amusing originality. When, however, one thinks the matter over, it is evident that the work done by such establishments as the Animals' Institute is, in its own province, as useful as it is humane. A report of the aims of this institution and its administration during the first six months of its existence was published in December of last year. According to this statement the arrangements of the new hospital are now fairly complete, and the building, it is hoped, will be formally opened in the summer. Considerable pains have been taken to provide suitable accommodation for a variety of "in-patients," and 150 of these, besides a very large number of "out-patients," have been under treatment during the period above mentioned. The committee of the Institute have also extended their sphere of activity beyond the limits of the hospital, and have interested themselves in the condition of the homeless poor of the lower creation who wander ownerless in our squares and gardens. Another matter of some practical consequence is their proposal to petition Parliament to allow the summary destruction of fatally injured animals—usually horses—which may be obstructing a thoroughfare. The Institute is free for animals belonging to poor persons, but provision is also made for treatment of the pets of more affluent subscribers. This is a fault, and implies a needless and undesirable interference with the functions of the independent veterinary surgeon. For any further information on the subject, we must, however, refer our readers to the report of the committee.

THE BACILLUS TUBERCULOSIS.

IN a paper on the detection of the bacillus tuberculosis lately read before the Chicago Medical Society, Dr. Frank Billings (*Chicago Med. Jour. and Exam.*) advises the use of Ziehl and Neelson's solution of fuchsin (one part to five carbolic acid, ten alcohol, and a hundred distilled water) for staining, and any of the mineral acids for the subsequent bleaching. Dr. Billings remarks that the bacillus is most easily detected in the sputa, but that it is most difficult to detect it in the blood, even in acute general tuberculosis. It is to be found in exudations into serous cavities due to tubercular inflammation, and is usually present in the cheesy infiltration of tubercular bone disease, but not easy to find in the pus from sinuses in such cases. It is difficult to detect in the urine because of the bulk of fluid and its effect upon the bacillus. Moreover, the preputial and labial smegma bacillus gives the same colour reaction, and has a form so nearly like the bacillus tuberculosis as not to be differentiated from it by the microscope.

DISHORNING CATTLE.

THE cruelty of what is known as dishorning cattle will hardly be disputed by most persons who have candidly given their attention to the subject. Yet it is somewhat remarkable that in a case of this kind recently decided in court against a farmer who had thus mutilated certain oxen, judicial opinions were in conflict on this very point. The difficulty of agreement, we may take it, does not arise in such a case from any misunderstanding as to the actual pain and injury inflicted. To saw off an animal's horns close to the head and through the bony core, cannot but be painful both at the time of operation and during the after-stage of inflammatory action in the bony stump. Neither is the process free from risk as regards the health of the animal. The question for legal settlement, however, more particularly is whether, in view of the existence of alternative measures, the practice of dishorning is useful or necessary. That it is roughly effectual for its purpose we do not deny. Its position as a necessary or even a preferable remedy we venture to dispute. In connexion with this assertion, the fact is noteworthy that, while some Scottish counties form the stronghold of this barbarous custom, in England it is comparatively little known. Tipping—i.e., cutting off the ends of the horns, or blunting them by means of knobs—is a substitute method whose value has been experimentally tested. There seems, indeed, no valid reason why some contrivance of this kind, assisted as it naturally would be

by isolation of quarrelsome cattle, should not suffice to prevent them from seriously goring their neighbours. Holding this opinion, we should like to see the practice of dishorning restrained by definite legal provision. One effect of enforcing a prohibitory measure would probably be the development of other methods applicable to the same purpose.

THE SIGNIFICANCE OF A FŒTAL CARDIAC RHYTHM.

M. HUCHARD has pointed out at the Paris Hospitals Medical Society (*La France Médicale*, No. 46) that the association of tachycardia (great rapidity of heart's beat) with equalisation of the two silent periods and similarity of the two sounds is of more serious omen than simple tachycardia. It is found with weakening of cardiac contractility due to degeneration of the heart muscle and extreme lowering of arterial pressure from vascular paresis. Such a condition, therefore, is of grave augury, and the therapeutic indications are to restore the contractile power of the heart by hypodermic injections of caffein, and that of the vessels by ergotin. He suggests the term "embryocardia," as descriptive of the condition that recalls the rhythm of the fœtal heart. In the discussion, M. Labbé demurred to the term, and expressed surprise at the results obtained by caffein, doubting whether it was absorbed, and fearing that it might be injurious in the large doses proposed by M. Huchard. M. Hallopeau thought the diminution of arterial pressure to be the result of the cardiac enfeeblement, and that cardiac rather than vascular tonics were indicated. Ergot of rye is a cardiac tonic. M. Huchard, in reply, said that he employed the term "embryo-cardia" because it is short and expressive. He asserted that it was safer to give caffein (in the amount necessary in such cases) subcutaneously than by the mouth, and said the local inconveniences at the seat of a hypodermic puncture could not be counted as against the relief afforded to the grave symptoms of the condition in which he employed it (M. Huchard's prescription was one to two grammes daily, in from four to ten hypodermic injections). Ergot of rye, he said, acts primarily upon the arterial system, and secondarily on the heart.

SPECIAL DISCUSSIONS AT THE HASTINGS HEALTH CONGRESS.

THERE are to be three special discussions at the Hastings Health Congress, to be held next week. The first of these is to be opened by Sir Edwin Chadwick on the Census. The veteran sanitary reformer advocates a more frequent taking of the Census, and has many new suggestions to offer relating to that proposition. The second special topic is on the Disposal of the Body after Death, and will be founded on no fewer than four papers from medical men. Dr. E. Haward opens the subject with a review of existing modes and their respective qualities. He will be followed by Mr. Seymour Haden, who will support earth-to-earth burial. After him will come Sir Spencer Wells in favour of cremation; and Sir Spencer will in turn be followed by Dr. Pietra Santa, who will also treat on cremation. In the debate the President of the Congress and many others are expected to take part, and the Church of England Reform Burial Society will probably find some well-known advocate of its views. From these sources of information and argument it is quite certain that the great question under consideration will receive an attention that has probably never before been given to it. The third discussion of a special kind will be on the Relative Merits of Vegetarianism and Mixed Animal Diet. Here the vegetarian system will be advocated by one of the leaders of the vegetarian system, Mr. Joseph Knight, the opposing side being taken by Dr. Charles Drysdale; and that an animated and useful controversy will follow there can be no doubt. Over the first of these debates, to be held on Wednesday, May 1st, Mr. Wilson Noble, M.P. for Hastings, will preside; over the second, on the following day, Major-General Webber, C.E., C.B.; and over the third, Dr. Bagshawe, as President of Section C—Domestic Health. In addition to these special debates there will be many others that are sure to attract interest. Dr. Danford Thomas has a paper on Public Mortuaries; Mr. Alfred Haviland, well known for his work on the Geographical Distribution of Disease, will propose a plan for a Governmental Geographical Survey of Disease; Mr. Shirley Murphy will treat on Legislation for the Prevention of Milk Infection; and the President of the Royal Society of British Artists, Mr. Wyke Baylis, will modify and chasten the harder matter of the Congress by an essay on Art in Sanitation. The Congress will open with an address from the President, Dr. B. W. Richardson, and will be closed by him with an address to the working classes. He has chosen for the first of these efforts the subject of the Health of the Mind; for the second, the Health of the Body.

THE COUNTESS OF DUFFERIN'S FUND.

THE second annual report of the Burmah branch of the National Association for supplying Female Medical Aid to the Women of India gives an account of the hospital with fifteen beds opened in Rangoon for the reception of lying-in patients, and of those suffering from diseases peculiar to women. The report states that the institution is becoming more popular among the Burmese, who at first looked upon the movement with suspicion and dislike. Great satisfaction is expressed at the high standard attained by the native female pupils undergoing instruction in nursing and midwifery. Thus, at the first examinations held in April, of seven pupils all passed in nursing, and six in midwifery. At another examination in nursing held in October, of fourteen pupils who presented themselves thirteen passed—a highly gratifying result. The diligence, obedience, cheerful willingness, and cleanliness of these Burmese students are noteworthy, and everything is done about the Rangoon Maternity Hospital and for the patients by these young women as it would be in an English county hospital. There were 228 cases during the year and five deaths. The stillbirths numbered ten. This comparatively high rate is attributable to the fact that the mothers were admitted at the last moment in a critical state, after having suffered much at the hands of ignorant native midwives outside.

ANTHRAX.

WE do not think it right that a statement concerning this disease made in a letter from the Rev. R. F. Meredith of Halstock, Dorset, and published in *The Times* of April 23rd, should pass uncorrected. With reference to an outbreak of anthrax in his neighbourhood he makes the following statement: "Anthrax properly is a boil, as such often extending to an abscess, and very painful. I saw a man last evening suffering from such, which broke to-day and so relieved itself." To those possessing a knowledge of the disease it is hardly necessary to point out that these statements prove absolutely that the man was *not* suffering from anthrax. As one name of the disease is malignant pustule, an idea, not always confined to the uninstructed public, still prevails that a boil comes at the seat of inoculation, matter forms with great pain, and relief is only obtained when the "pustule" bursts. The importance of recognising the disease is very great, as the life of the patient depends upon early and energetic treatment, and such a statement as that made in this letter, if uncontradicted, may have a disastrous effect. The facts are that, beyond itching, there is little

discomfort, and no matter is formed. A small angry pimple first appears, on which a vesicle forms, which is usually broken by the patient's scratching it; a hard patch follows, which becomes black; a ring of vesicles forms round it, and beyond this there is an areola of redness and swelling, which increase, accompanied with enlargement of the nearest lymphatic glands. As the marked fever and constitutional symptoms do not appear before the fourth or fifth day, little attention may be paid to this local manifestation of the disease, and much valuable time lost before the patient seeks medical advice. If he thinks the disease first appears as a boil, he will look upon the appearance of the pimple as of no consequence, until he is told of its nature when applying for the relief of the accompanying constitutional condition, by which time the disease will have already progressed to a serious extent.

COUNTY AND SUBURBAN HEALTH ADMINISTRATION.

A CORRESPONDENT to an evening contemporary advocates the appointment by the Middlesex County Council of medical officers of health to districts immediately beyond the boundary of the administrative county of London, and suggests that these districts should be combined for the purpose of enabling the Council to engage officers who would devote their whole time to their duties. It was with this object that Mr. Stansfeld's clause was introduced into the Local Government Act, and it may be anticipated that the County Councils will be able to make such arrangements with the various local sanitary authorities as will permit of permanent combinations being formed. With the exception of London, there is as yet no evidence of the intention of County Councils to appoint a medical officer of health for their own guidance, and this is the first step which should be taken to ensure their own duties with regard to sanitary administration being efficiently performed. It is to be hoped that these appointments will not be long delayed, for the Councils might easily drift into positions concerning their public health duties which could be less easily modified than at the commencement of their work.

The combination of suburban sanitary districts has also been urged, so as to enable the County Council to appoint one officer to a combination of districts, thus making it possible to pay him a sufficiently large salary to enable them to demand the whole of his time and attention for the duties of his post. In this way "medical men with special scientific aptitude for these functions would be attracted to offer themselves as candidates." We cordially agree with our correspondent that the idea is excellent; but the possibility of paying sufficient to secure the services of a scientific officer does not carry with it the probability that any such result will follow. The tendency at the present time is to pay inadequately for public health services, and the result is inevitable that really able men will be discouraged from taking office, and the public health service will deteriorate. Those who have been looking forward to improved sanitary administration must see with profound regret what is taking place.

BOVINE TUBERCULOSIS.

DR. EDWARD PLAYTER, in a paper upon the Intercommunicability of Tuberculosis between the Domestic Animals and Man (*Canada Lancet*, April), sums up strongly, after a review of a large body of evidence, in support of such transmission. In expressing the opinion that tubercular disease in cattle is far more prevalent in Canada than is supposed, he urged that steps should be taken to prevent its spread and increase.

MILITARY MEDICAL INSTRUCTION IN TALY.

IN a series of articles on the condition of military medical instruction in Italy by Dr. Rubino, of Naples, in *La Riforma Medica*, the existing system is somewhat severely criticised, the Military Medical School at Florence not being, in the author's opinion, sufficiently furnished with material for giving really useful instruction to something like two hundred young medical men. Complaint is also made that the men, who have all had a university training, are treated as private soldiers, just as if they had come direct from the plough or the forge. Surely they might be considered as officers, and treated in a similar manner to young artillery or engineer officers. They must of course learn fencing, drilling, and something of military discipline, but there is no need for them to be put under degrading conditions during the two months' course of military subjects. Then, again, as to the scientific courses of instruction, they are said to be too theoretical, the men frequently not seeing a patient all the time they are at the school. Even the theoretical teaching, which is good enough in its way, is said to be to some extent superfluous. The subjects in the programme are:—1. Military Medical Jurisprudence, theoretical and practical. 2. Military hygiene, theoretical and practical, including regulation statistics. 3. Injuries in war, theoretical and experimental. 4. The most important diseases and epidemics occurring in military practice. 5. Experimental bacteriology. Also a number of other subjects, such as riding, fencing, &c., of a purely non-medical character. A reform is urgently needed which will give to medical men about to embrace a military career opportunities for special instruction. The question is, "Can the object be better accomplished in a military hospital?" (the plan adopted previously to 1882 when the Florence school was established); or "Is it necessary to have a special school?" Dr. Rubino thinks that it is necessary, for though under the old system the results were good, a hospital does not afford all the opportunities for scientific instruction demanded at the present time. The fact is that the Florence school is supposed to combine the advantages of a hospital with those of a school, but too much time is spent over non-medical work, and the opportunities for medical instruction are far too limited to be of much service. If matters are not speedily placed on an improved footing, it is to be feared that there will be a difficulty in obtaining satisfactory candidates, and that the prestige of the service will necessarily suffer.

THE HORRORS OF THE HOARDINGS.

THERE can surely be no reasonable objection to a resolution lately passed by the London County Council, on the motion of Mr. H. H. Marks—namely, to take steps to acquire the control of advertisement on hoardings, to impose a tax for such advertisement, and to apply the proceeds to the relief of county rates. Many hoardings, it was alleged, are at present free from impost or control of any kind. If this be the case, there can be no question of right as regards an assumption of powers in dealing with these. It is very desirable, not only on behalf of public economy, but on moral grounds, that the business of such advertisement should be subject to regulation by some accepted authority. The publicity now afforded on every vacant space to pictorial horrors and even indecencies, and to vicious quasi-medical handbills, has become a common nuisance. For the correction of this abuse no body is better qualified than the County Council. It is possible, nevertheless, that its efforts in this direction may meet with some opposition. Where private property, such as the gable-ends of houses or building sheds, is utilised for this purpose, objection might be taken to its interference. Even in this case, however, the proposed

action of the Council, undertaken as it is for the public interest, is entirely justifiable. Any tax, we presume, would in the case of ordinary "bold advertisement" be but a light one. Still, a substantial profit would accrue to the taxpayer, and a valuable prohibitory power, to be sternly used if necessary, would be placed in the hands of his representatives.

TORDEUS ON THE TREATMENT OF WHOOPING-COUGH.

DR. TORDEUS, of the Hôpital St. Pierre, Brussels, in a clinical lecture on Whooping-cough, concludes with a few words as to the treatment he adopts. He has no faith at all in the administration of preparations of belladonna for the purpose of preventing the development of the disease; the only prophylactic measure which, in his opinion, is worthy of any reliance being the rigid isolation of the patients. He recommends that as soon as whooping-cough has broken out in a family all the other members who have not already had the disease should be sent away, especially those who may be weak, rickety, or very young, as such are predisposed to bronchitic and pulmonary inflammations. Before the children which have been sent away are allowed to return, a thorough process of disinfection should be carried out, not only of the room occupied by the patient, but of all objects with which he may have come in contact. This is to be effected by means of carbolic acid, chloride of zinc, the vapour of sulphur, boiling water, or the hot-air chamber, according to the nature of the things to be disinfected. As to medicine, during the early or catarrhal stage ipecacuanha and bicarbonate of soda should be given, with the object of rendering the phlegm less thick and tenacious; afterwards, when the nature of the disorder has declared itself, germicides—as carbolic acid, salicylic acid, benzoic acid, sulphate of quinine, resorcine, &c.—should be prescribed. M. Tordeus especially recommends inhalations of a 3 to 5 per cent. solution of benzoate of soda, even in the case of very young children, though he does not specify the kind of apparatus he employs for this purpose. In order to moderate the violence of the attacks, bromide of potassium, oxide of zinc, belladonna, hyoscyamus, cocaine, antipyrin, or chloral may be given. As the disease is beginning to disappear, expectorants, such as chloride of ammonium, senega, and liquorice, are useful; and, finally, anæmia and debility during convalescence may be treated by country air, cod-liver oil, preparations of iron, quinine, and arsenic, and nourishing diet. Where symptoms of broncho-pneumonia show themselves, all depressing drugs must of course be avoided. In such cases M. Tordeus recommends wet packs and carbonate of ammonia, combined with alcohol.

HOUSING OF THE INDUSTRIAL CLASSES.

TWO BILLS relating to the housing of the working classes have been introduced into the House of Commons. The first, brought in by Mr. Robert Reid, Mr. Broadhurst, and Mr. Sydney Buxton, is intended to enable the London County Council to acquire land, build and let houses and rooms at fair rentals, provide open spaces, halls, baths, &c., for the benefit of poor persons. The Bill would authorise the County Council to borrow money for these purposes, the revenue to be derived from a tax of not more than one penny upon the income received from rent within the metropolitan area. The second Bill is introduced by Lord Henry Bruce, Major-General Goldsworthy, Sir W. Plowden, Mr. Howell, and Mr. Bazley-White, and provides for the amendment of the Artisans and Labourers' Dwellings Improvement Acts, 1875–1885. If this Bill became law, disobedience of orders for abatement of nuisances would be punished by a fine of £10 for the first offence, £20 for the second, and £100 for the third. The duty of making bye-laws for houses let in lodgings would be obligatory on metropolitan vestries and district boards; and defaulting local authorities, failing to secure the proper sanitary condition of all premises within their district, might be dissolved.

DR. TOMMASI-CRUDELI ON THE PREVENTIVE INOCULATION OF CHARBON.

To the Accademia dei Lincei (the equivalent of the Royal Society) Dr. Tommasi-Crudeli has addressed a note in justification of his opposition to what he calls "the vast experiment of the preventive inoculation of charbon" proposed to be made on the herds of the Agro Romano. He reminds the Accademia that he does not oppose, in the main, the prophylactic operation of Pasteur. His treatise on Pathology, published seven years ago, a few months after the French physiologist made his celebrated communication to the London Congress, gives ample proof to the contrary. In that treatise he prophesied that Pasteur would extend his operation to hydrophobia—two years before Pasteur announced to the Copenhagen Congress his brilliant discovery in that direction. But he holds that Pasteur himself would be the last to advise the "vaccination charbonneuse" in localities where, like the Agro Romano, true charbon does not exist. Having given an account of the vaccine of charbon and its *modus operandi*, Dr. Tommasi-Crudeli proceeds: "Charbon is a terrible contagion, as being almost invariably mortal, and communicated with great ease from one animal to another, and from those to man. We cannot, therefore, look on with indifference at the danger of introducing it, by means of inoculation, into a region exempt from it, or at the danger of infecting with it healthy herds under the idea of preserving them from possible future attacks of charbon. When we inoculate an effective virus, and not an inert liquid, this danger is so great that it is now the settled practice to make preventive inoculations only in countries where charbon is epizootic, and to refrain from it in those where it is sporadic." Given the proof of epizootic charbon in the Agro Romano, and Dr. Tommasi-Crudeli would allow the prophylactic operation of Pasteur; but till that proof has been established he holds that nothing can justify the practice.

MEDICINE AS A FACTOR IN COLONISATION.

IN the *Revue Française* is an article by M. Édouard Marbeau on the colonising tendencies of England and America, with special reference to Syria and the action of medical missions. He says the Great Powers which covet the vast plains of Asia comprehend that the action of religious missions is much too slow, and they have created medical missions to work in a line with them. Referring to Cardinal Lavigerie's labours in Africa, as well among the Arabs as the Negroes, he magnifies the influence of Medicine and its beneficent services, and says experience has shown that the doctor is strong enough to overcome the most refractory populations. Our readers have had several opportunities of judging the work of such a man as Dr. Post in Beyrout, and it is easy to imagine that for conciliating Mahommedan prejudice he would count for a regiment of soldiers and a score of mere theologians. We should be delighted to think that the future triumph of Christianity over the East was to be achieved more by medicine and less by destructive methods. We must never forget the share which it had in the methods of the Master himself. Here is a field for much medical labour; but we agree with Cardinal Lavigerie that the native mind will have to be brought into the service.

THE LOCAL GOVERNMENT ACT.

ALREADY several of the local sanitary authorities of the metropolis have under consideration the desirability of applying to the London County Council for half the salary of the medical officers of health. By this step the officers will become subject to the regulations of the Local Government Board specifying their duties. This, however, will not materially affect their position; they will simply have, in addition to the work they have hitherto performed, the duty of sending certain of their reports to the Local Government Board and to the County Council. It does not appear from the order that has been issued that medical officers of health already appointed will be obliged to resign to enable their Authority to receive half the salary, and it may be hoped that no step will be taken which is calculated to disturb them in their office. It would be well if the vestries and district boards, in seeking to recover some portion of the salary, were to take this opportunity of making the amount of remuneration adequate to the duties performed; the small sums now paid in many London parishes are little more than nominal recognition of the work of the officer.

ISOLATION ACCOMMODATION AT HUDDERSFIELD.

AN important debate has taken place in the Huddersfield Town Council as to the expediency of making an increase of infectious hospital accommodation on the site of the present hospital, or of seeking a new and more extensive site for an entirely new institution. As the debate has been adjourned, we defer making any comments on the subject.

THE VACCINATION COMMISSION.

THE following members of the medical profession will, we understand, probably be nominated to serve on the Vaccination Commission:—Sir Andrew Clark, Sir James Paget, Mr. Savory, and Dr. Creighton.

FOREIGN UNIVERSITY INTELLIGENCE.

Amsterdam.—Dr. van Rees, Assistant in the Physiological Laboratory, has been appointed Extraordinary Professor of Histology.

Berlin.—Dr. Erwin von Esmarch, son of Professor von Esmarch of Kiel, has been appointed *Custos* of the Hygienic Museum.

Cracow.—Dr. Korczynsky, Professor of Pathology and Therapeutics, has been offered a chair at Lemberg, in succession to Professor Biesiadecki, but has declined to migrate. On his decision becoming known, his class showed their appreciation of it by an ovation.

Greifswald.—Dr. Paul Strübing has been promoted to the rank of Extraordinary Professor, teaching Medicine and Laryngology.

Vienna.—The number of medical students (ordinary and extraordinary) during the past winter session amounted to 3185, against 3123 the previous winter. These students belonged not only to the Austrian empire, but to many other nationalities. The most numerous class of foreigners was that of Russians, of whom there were 118. There were also 105 Americans, 78 Roumanians, 50 Servians, 46 Germans, 40 Englishmen, 18 Bulgarians, 13 Greeks, 10 Turks, 12 Swiss, 5 French, 8 Belgians, 9 Italians, 3 Swedes, 5 Dutchmen, 1 African, and 3 Australians. The total number of medical students during the session in all the Austrian Universities—excluding the Hungarian ones—was 5666. Of course, the number attending all the others put together did not equal that of the Vienna School. The two Universities of Prague, however, had an attendance of 1714, more than 1000 of which belonged to the Bohemian faculty. The smallest faculty of all is Innsbruck, the total number of students being 261.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following eminent foreign medical men are announced:—Dr. Ludwig Fürth, *privat-docent* in Children's Diseases in Vienna, and Chief Medical Officer of one of the Departments of the Polyclinic; Dr. Bolliet, of Aix-les-Bains.

ON the morning of the 17th, in the Anatomical Theatre, Bologna, a memorial tablet was unveiled in commemoration of Professor Pietro Loreta's first conception and performance, Aug. 26th, 1887, of his now famous operation of resection of the liver. A vast assembly of students, clinicians from all parts of Italy, and of the general public were present. Professor Loreta himself was, with characteristic modesty, absent. Effective speeches were made by Colonel Costelli, director of the hospital, by the students Cecchini and Gatti, and by Professor Cocconi. A splendidly illuminated album was also presented to Professor Loreta at his own house, in commemoration of his recent return to Parliament as member for the first division of Bologna.

THE picture of Sir William Bowman by Mr. Ouless, R.A., has by special permission been exhibited to subscribers in the Marsden Library of King's College, and has now been sent to the Royal Academy. The list of subscribers numbers 420, and will be closed on June 1st.

THE Congress of Russian naturalists and medical men, which was to have been held in Kharkoff next winter, is now arranged to be held at St. Petersburg. The sections will comprise a new subject, Agronomy, in addition to other scientific and medical subjects.

THE Emperor of Germany has conferred the Red Eagle, Third Class, on Dr. Felix Semon, Assistant Physician in charge of the Throat Department, St. Thomas's Hospital.

THE *Medical Register* (New York) for the 13th inst. reports that Dr. Samuel W. Gross is in a critical condition; in fact, on April 11th he was said to be slowly sinking.

Pharmacology and Therapeutics.

LANOLINE AND PERCHLORIDE OF MERCURY.

ACCORDING to a paper by Dr. A. Gottstein (*Therap. Monatsch.*, March, 1889), lanoline with perchloride of mercury possesses several important surgical advantages. Koch has already shown the relative inefficacy of carbolised oil. Gottstein now asserts that although oil, lard, and fat completely prevent the action of antiseptics, lanoline with perchloride of mercury is as powerful a disinfectant as an aqueous solution of the perchloride. In the treatment of large ulcerated surfaces he considers that this combination will be serviceable, as it will minimise the risks of absorption, while it will ensure a more complete covering of the affected part, and its preservative action will be more continuous. Ebstein, in the *Deutsche Med. Woch.*, confirms these views, and recommends the employment of this combination in the treatment of threatened bedsores; and from Dr. George Meyer of Berlin comes the suggestion that it can also be used to protect the hands of surgeons during antiseptic operations. The roughness and disfigurement of the hands, caused ordinarily by strong solutions of carbolic acid, are said to be obviated by lanoline. In spite of the conflicting

statements hitherto made of the absorptive powers of lanoline, it appears to have been conclusively proved that, even in the absence of perchloride of mercury, it is unfavourable to the percolation and development of micro-organisms. It is highly probable that its true use as a protective has now been established by Dr. A. Gottstein.

MERCURIAL VAPOUR IN CROUP.

Dr. Rothe of Altenburg relates (*Memorabilien*, 6 Heft, 1889) two cases of apparently non-membranous croup in which, when the laryngeal stenosis became so great as to oblige him to propose tracheotomy, the inhalation of the vapour of calomel produced such a remarkable change for the better that he was able to dispense altogether with the operation. He rigged up a sort of tent over the child's head and vaporised thirty grains of calomel on a metal plate over a spirit lamp. This produced a marked improvement in the breathing in a few minutes, and shortly afterwards the child fell asleep bathed in perspiration. The inhalation was ordered to be repeated every two or three hours, but with smaller doses of calomel, also whenever a severe attack of dyspnœa came on an extra inhalation was given, and never failed to produce the desired effect. Though the inhalations were continued for a couple of days there was no salivation or diarrhœa, but the vapour set up some little irritation about the eyes which made the little patients rather fractious, otherwise no unpleasant effects were produced.

SULPHONAL IN NIGHT SWEATS.

In addition to the hypnotic properties enjoyed by sulphonal, this drug is capable, according to Dr. Böttrich of Hagen, Westphalia, of exercising a most beneficial influence in night sweats. It acts, he thinks, very similarly to atropine, but, unlike it, is quite free from any undesirable effects. He found this property out by accident, having prescribed a quarter of a gramme (nearly four grains) for an old lady of eighty as a sleeping powder. The patient had been suffering from the most profuse night sweats, obliging her to change her things twice during the same night. After the first dose she asked the doctor whether he had not put something into the powder to prevent the sweats. On making further observations, Dr. Böttrich was able to convince himself that as a rule half a gramme (seven grains and a half) of sulphonal will stop night sweats. Its effects seem fortunately to be somewhat permanent, as even after the drug has been stopped the night sweats are found to be much less severe than they were previously to taking it.

KEFIR IN CHILDREN'S DISEASES.

Kefir, a substance something like koumiss, made in the Caucasus, has long been utilised in phthisis as a stimulant and easily digested food in various wasting diseases, such as phthisis. Until recently, however, it was but little known beyond the locality of its origin. Kefir has of late attracted some attention, and has been employed in some of the hospitals both of France and Germany. Dr. E. Krauss of the Children's Department of the Vienna Polyclinic has collected a good deal of valuable information on the subject, which he publishes in a Vienna medical journal. Kefir consists of milk which has undergone two distinct kinds of fermentation—the alcoholic, produced by the yeast-like cells of the ferment, and the lactic acid fermentation, due to a bacillus also contained in the kefir; the actual contents being alcohol, lactic acid, carbonic acid, and peptone. It has been given to children as young as two months, and is said to have proved most valuable in gastric and intestinal catarrh.

TURPENTINE IN CROUP.

Dr. Lewentaner of Constantinople, who some two years ago recommended the internal use of large doses of pure turpentine in croup, has recently published two cases treated successfully in this way which had all the appearance of being hopeless, except perhaps through the performance of tracheotomy. Dr. Lewentaner gives a teaspoonful of pure turpentine at once, which produces violent attacks of coughing, during which a quantity of mucus and ultimately of croupous membrane is brought up. The dose is sometimes repeated more than once at intervals, and after the patient has begun to recover, a mixture of turpentine and mucilage is given. In one of the cases a spray consisting of turpentine (4 parts), carbolic acid (4 parts), alcohol (3000 parts), and water (1000 parts) was used with the best results.

THE SIXTH ITALIAN SURGICAL CONGRESS.

(FROM OUR OWN CORRESPONDENT.)

ON the 16th inst., in the Archiginnasio, Bologna, where, just ten months ago, was held the greatest academic commemoration on record, the sixth Surgical Congress of Italy began its sittings, there being a large attendance. Of the fifty-six subjects set down for discussion only a selection could be overtaken, and of these I can mention but the moiety that evoked special discussion. At the same time many of the papers for which time could not be found were important alike in subject and treatment, and will be reserved for production at another congress or made *publici juris* through the press.

Professor Loreta, in a few introductory remarks, congratulated the congress on the increased number of papers embodying histological and bacteriological researches in the list of contributions, thus relieving the preponderance, hitherto excessive, of cases exclusively clinical.

Professor Ceccherelli opened the proceedings with a memoir on "Surgery in Tubercular Peritonitis," and described four cases on which he had operated with complete success. He was followed by Professor Ruggi, who reported on the "Statistics of Laparotomy as performed during the last twelve months." He announced a series of 115 operations, all successful except eight, of which he characterised the unfavourable conditions. In the afternoon sitting Dr. Angelini described a successful case of removal of an ovarian cystoma from a woman in her fifth month of pregnancy; and then Professor d'Antona gave a list of thirty-two successful ovariectomies, the most interesting of which was one performed for hystero-epilepsy. After him came Professor Pucci with a *catalogue raisonnée* of laparotomies performed in the clinique of Professor Loreta. Two of these—one for stenosis of the pylorus, the other for stenosis of the cardia—proved highly instructive, Professor Loreta having proceeded by the method of divulsion devised by himself, with the most gratifying results. The operation has been repeated with success in America, where Professor Loreta's "Lavoro Sperimentale sulla Divulsione" is in high favour, and will, it is understood, form a theme of discussion at the approaching American Surgical Congress. The next paper, of great interest, was that of Professor Durante, on "Removal of the Cæcum for Tuberculosis," only a few cases of which operation are recorded in surgical annals. The rapidity and completeness of the cure was one of its most gratifying features.

Next day (the 17th) Professor Postempski of Rome resumed the subject of laparotomy, his thesis being "Laparotomia Diagnostica e Curativa nei Traumi dell' Addome" ("Laparotomy, Diagnostic and Curative in Wounds of the Abdomen.") In such cases, he said, the sooner surgical interference is practised the better. Of the twenty-three patients on whom he performed the operation, sixteen were suffering from wounds. Seventeen out of the twenty-three operations were successful, and he drew particular attention to one of the patients who laboured under a serious wound of the liver, and another not less seriously injured in the bladder. His success has been such that he has had constructed in the Consolazione Hospital at Rome a special ward, fitted up with every surgical and scientific appliance for the prompt practice of laparotomy. Among other papers discussed in the forenoon and afternoon sittings were Professor d'Antona's paper on "Estirpazione di un Aneurisma Arterio-venoso della Femorale"—a most interesting specimen of surgical reasoning and practice; and another memoir by the same Neapolitan professor, "Sulla Milza Mobile ed Ipertrofica con Splenectomia e Guarigione" ("On Movable and Hypertrophic Spleen, with Splenectomy and Cure"). On a similar thesis, "Sugli Effetti dell' Estirpazione della Milza nell' Momo," Professor Ceci read an admirable paper, as also one on "Extirpation of the Spheno-palatine Ganglion for Neuralgia;" whilst Professors Tizzoni and Poggi exhibited a dog in which, by surgical means, they had reconstructed the bladder—an achievement which attracted much attention and criticism.

The concluding day (the 18th) was in some respects the most important of the three. Professor Ruggi read an elaborate chemico-pathological study of a patient on whom partial resection of the liver had been performed—an operation done for the first time by Professor Loreta. This case

by Professor Ruggi was the second, and was highly successful. The woman was visited and examined by the members of the Congress. An interesting feature of the cure was the slow cicatrisation, which, from experiments made on animals, Professor Ruggi saw reason to attribute to the slow continuous passage of the bile. A most animated discussion followed, in which all the leading surgeons present bore a part; and at the close, Professor Ruggi announced that he would publish a volume without delay on the whole subject of resection of the liver—a work which the profession will await with eagerness, coming from so able and independent an authority in microscopy, pathology, and surgery.

After the reading and discussion of other papers (the official publication of which must notably enrich the bibliography of surgery) and the presentation of novel instruments and appliances, the Congress came to a close, to meet on the next occasion at Florence.

Bologna, April 20th.

THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

Domestic Drainage.

A THIRD of the sewers of Paris have been so built, rebuilt, repaired, or modified, that, as already mentioned, they are considered in a suitable condition to receive sewage of every description. The nomenclature of these sewers, or portions of sewers, is given in a decree of the Municipal Council bearing date December 26th, 1887, and issued by the Prefecture of the Seine. How far such sewers are all that could be desired must for the moment remain an open question. In some instances the sewers have not been altered, but simply provided with automatic flush tanks. By the periodic discharge of a volume of water the cleanliness of the sewer is, it is said, sufficiently maintained. Considering that there are no pumping stations in Paris to lift the sewage to a higher level, and that in many cases the natural fall is not sufficient to permit the construction of self-cleansing sewers, it would be imprudent to conclude that even this third part of the Paris sewers is in a thoroughly satisfactory condition. But this observation can be applied to many other places. In very many towns the sewers are far from perfect; and yet, in spite of all their defects, they have contributed to reduce the death-rate in a notable manner. This, it may be hoped, will be the case in Paris, even with the imperfect sewers that exist. Such sewers, with all their shortcomings, nevertheless achieve this great sanitary purpose: they carry the nuisance away from the house into the street—that is, into the open air. This is a point often insisted on in THE LANCET, not only with regard to Paris, but when criticising such towns as Toulon, Marseilles, Nice, &c. A general system of drainage, the building of vast sewers, &c., is an undertaking which perforce must often be postponed, if for no other reason, from the want of funds to cover the necessary expense. But, in the meanwhile, at a much smaller outlay, domestic drainage can be so reformed as to prevent the contamination of the atmosphere within the house. If gases escape from an imperfectly constructed sewer or cesspool, then let such escape take place in the street, and not within the walls of an inhabited dwelling. In France, however, the question of trapping, flushing, ventilating, and intercepting domestic soil pipes and waste water pipes has been so neglected that the dangerous gases generated in cesspool and sewer generally find their way into the houses and apartments before reaching the open street. The mischief is thus greatly intensified. This evil need no longer continue—so far, at least, as Paris is concerned.

The Municipal Council, in its sitting of Feb. 28th, 1887, voted a set of rules on "l'assainissement"—the rendering healthy—of Paris. Their application as yet is only partial, because the rules contain a clause imposing what is equivalent to a new tax, and no municipality can establish a new tax without the assent of the Chamber. A Bill to grant this authorisation is now before the National Assembly. It had been held back till the question of establishing a sewage farm at Achères was decided, as it seemed necessary first to settle what was to be done with the sewage, and then rules that would increase its volume and its strength could more appropriately be enforced. The new regulations, so far as taxation is concerned, are only applied when voluntarily accepted by all parties. They are fully elaborated and set forth by decrees issued by the Prefecture of Police, and bearing the date of Nov. 20th, 1887. These regulations stipulate that where, instead of draining into a cesspool, the soil pipe shall be made to communicate directly with the sewer, the proprietor of the house shall pay annually the sum of £2 8s. to the municipality for each soil pipe, except when the soil pipe is connected with tenements that do not let at more than £20 per annum. In this latter case the charge shall be only 30 francs, or £1 4s. To the Parisian householder this tax represents a considerable economy, for the cost actually incurred of periodically emptying the cesspool is much greater. The municipality reserves to itself the right of altering this tax after a lapse of five years. At the present moment, and without waiting for legislative enactment, any proprietor can, if his house abuts upon the properly-built sewers, abolish his cesspool and drain direct into the sewer, on condition that he carries out the rules laid down and voluntarily consents to pay the tax or subscription of 60 francs per annum per soil pipe. When the rules are accepted by the Legislature, this will no longer be optional, but the landlords or householders will be compelled to execute a portion of the new rules within twelve months, and all the stipulations within three years.

There is a clause introduced that still keeps open the question as to which system of sewers shall be ultimately adopted. Article 12 states: "The discharge of sewage may be made either directly into the public sewer or else into whatever other system of special canalisation may be adopted by the Municipal Council." The schemes for pneumatic drainage, so ardently discussed in France, are, therefore, not definitely shut out, though the course of events tends to show that the English method of water carriage is gaining the day. This, however, is another subject; the great fact before us is that now, at last, there is a clear, distinct method, recognised and applied, by which domestic drainage can be, and actually is, carried out in a satisfactory manner. What happens to the sewage once it is out and away from the house is another question, which has not yet been so satisfactorily solved. It is something—it is, indeed, as if half the battle were won—when the authorities know how to enforce rules that will ensure efficient domestic drainage. The rules and the specifications laid down by the Paris municipality for the drainage of houses are so much in advance of what is generally done by town authorities that it will be necessary to describe them with some care, and for this purpose a few illustrations will best convey an accurate idea of the principles that are being enforced for the first time by the sanitary service recently established in the French capital.

Paris, April 23rd.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Scarlet Fever at Lower Brixham, by Dr. BLAXALL.—Lower Brixham lies in two valleys on the south side of Torbay, Devonshire. It had a population of 5366 in 1881, and nearly all the male population are engaged in the fishing trade. In describing the sanitary circumstances of the place, Dr. Blaxall enters at length into the question of its sewerage, the means of ventilation for which is evidently very inadequate, and is the cause of complaint of nuisance; the house-drainage arrangements also constitute an element both of nuisance and of danger to health, and some of the drains are so constructed as to cause mischief to the houses with which they are connected. The closets are most unsatisfactory, those professing to be waterclosets having no water laid on to them and being constructed in most improper places, sometimes, indeed, in the window-sill of a

living room. As to water-supply, the most noticeable defect lies in the direct communications between water-closets and waterpipes. Of 300 houses inspected, 180 had been invaded by scarlet fever; 351 cases and 43 deaths having taken place up to the end of December last. But notwithstanding the grave sanitary defects observed, Dr. Blaxall states that his inquiry went to show that the spread of the disease was essentially effected by personal intercommunication between infected and healthy, the schools playing a prominent part in the dissemination. The schools were, indeed, at first closed, but on their reopening, three children attended who were actually ill with scarlet fever; and in the end, 87 persons had to tell the tale of the first attacks in their families being in the persons of children who returned from school ill with the complaint. Many reckless instances of exposure of infected persons were also heard of. It is likewise noticed that a number of persons dated their attack from attending on the occasion of laying the memorial stone on Nov. 5th, on the spot where the Prince of Orange landed, the event having brought together a large concourse of people. Unfortunately Dr. Blaxall's report tells the story of serious neglect in sanitary administration. No means of isolation were available, no efficient measures of disinfection of bedding and clothing were resorted to, no pains were taken to prevent the exposure of infected persons, and no warning was given against the free intercommunication that prevailed, beyond advising the closure of the schools at the beginning of November. Recommendations are appended to Dr. Blaxall's report, and these aim at securing for Lower Brixham such sanitary circumstances as shall tend to prevent the occurrence of preventable infectious disease, and to stay its spread should it be accidentally imported, as also to secure for the place an improved sanitary administration and a better performance of the duties which properly devolve on the sanitary officials appointed under the Public Health Act.

Diphtheria at Camberley and York Town, by Dr. PARSONS.—These districts, in the parish of Frimley, are acquiring an unenviable reputation as regards diphtheria; but it is difficult to assert with any degree of confidence to what the recurrence of this disease in the locality is due. Since 1886, when Mr. Power reported on a milk epidemic there, the district seems to have been tolerably free from diphtheria or other throat illness until the autumn of last year, and then, following on certain deaths from "croup" and "laryngismus stridulus," together with ill-defined throat attacks, diphtheria made its appearance at the close of September; and in the end there were, between this date and Jan. 12th of this year, sixty attacks in twenty-six families, and nineteen deaths. The 1886 outbreak was especially marked upon the well-to-do classes, its incidence being apparently related to the amount of milk consumed; but this last epidemic attacked almost exclusively persons of the cottager class, servants, artisans, and labourers. The bulk of the sufferers were also children belonging to the school-going classes. Dr. Parsons, having regard to the localisation, distribution, and other circumstances of the outbreak, points out that in order to explain the first real dissemination of the disease, there should be found some condition or combination of circumstances coming into operation about the beginning of November last, and acting in a scattered fashion over a somewhat wide area, though exhibiting a preference for certain localities, and confined in its operation to the poorer or lower middle class. But no such condition could be ascertained as having thus operated. Certain conditions, such as milk-supply, could apparently be excluded with confidence; school-going seems unquestionably to have operated in spreading the infection; and communication with animals, such as a cat and pigeons, which similarly suffered from fatal throat disease, seems to have caused diffusion of infection, but whether it was conveyed from the lower animal to the human being or the reverse is by no means clear. Damp, boggy situations, dampness from defective eave-spouting, and ill-ventilated houses were also noticed in the places affected; and in some instances there was history of exposure to sewer effluvia; for Camberley, having a system of sewers, has no public water-supply, a position which must always be unsatisfactory, and often attended with danger of distinct and unwholesome nuisance. There is also no isolation hospital, and hence no chance of staying such infections promptly. The Surrey County Council is, however, expected to intervene as to the administration by an urban authority of part of the district involved.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Northampton Urban District.—With a population now exceeding 61,000, Northampton had during 1888 the lowest death-rate recorded for thirteen years—namely, one of 15·6 per 1000; the former high rate of infantile mortality also shows indications of change for the better, and the zymotic rate was the lowest recorded for a long period. Only 2 deaths from diphtheria were registered; but there is the suspicious record of 7 from "croup," which was not of the spasmodic type. The only means of isolation possessed by the Northampton corporation consists of some "hideous huts," which are not even weather-proof; and Mr. Cogan, while declaring them to be a disgrace to the town, very properly urges that a hospital having some attractiveness about it should be substituted for the present very deterrent accommodation, which cannot fail to be a serious source of hindrance to the sanitary authority in any future attempts at securing isolation. There is now an abundant and a wholesome water service available for the borough, and hence there is now no longer excuse for resorting to local wells in the town. In some instances there is record of the closure of such wells, and they should soon be altogether things of the past. The town stands much in need of modern bye-laws as to the drainage of new buildings, the regulations in force being mainly of value as indicating how such work ought never to be done.

Kettering Urban District.—The presence of enteric fever in this district during 1888 is stated by Mr. W. Dryland to have been a cause of much anxiety. Indeed, twice recently the disease has prevailed somewhat extensively; it caused 15 deaths in 1886, and 10 last year. During the month of March last intractable diarrhœa led to the breaking up of a girl's school, and shortly afterwards enteric fever appeared amongst the scholars in four or five different parts of the country, simultaneous attacks occurring amongst some of the inhabitants of the town in connexion with a falling off in the public water-supply and in the imperfect condition of a local sewer and its connexions. After a fortnight's continuous flushing this sewer was cleared of its solid contents, and the fever in that locality virtually ceased. But other cases occurred in the town in April, June, July, and August. One redeeming feature of the attack is that it gave occasion for a large amount of sanitary work, including the relaying of certain sewers, and it is stated that steps have been taken to secure a further supply of water for the town, which, it is hoped, will soon have a constant service. As far as can be judged of the present population, the general death-rate for the year is held to be about 16 per 1000.

Belper Rural District.—Notwithstanding the importation of small-pox, this district was saved by Mr. Allen from hurriedly erecting a hospital that would have been useless for permanent purposes, and the authority are again urged to make proper provision whilst they are free from any emergency. Although the general death-rate has diminished, that amongst infants is still held to be far too high. A steady diminution is also reported as to nuisances, and the bye-laws in operation are expected to secure for new dwellings appropriate sanitary surroundings. The regulations under the Contagious Diseases (Animals) Act, which were suggested by the Derbyshire Dairy Farmers' Association, have been virtually adopted, and it is hoped that they will work satisfactorily. In the meantime dairy and dairy-farm premises are carefully inspected.

Halifax Urban District.—The annual report for 1888 by Mr. D. Ainley consists almost exclusively of statements of statistics and of causes of death, from which it appears that the general mortality was at the rate of 19·6 per 1000, a rate distinctly below the average; the zymotic rate was 1 per 1000. The borough hospital has been again most useful, and it is worthy of note that during the past two years not a single death from scarlet fever has occurred amongst those isolated there. The inspector of nuisances appends a report dealing with a number of subjects, and indicating that in his department considerable activity is maintained.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5667 births and 3547 deaths were registered during the week ending April 20th. The annual rate of mortality in these towns,

which had been 20·3 and 19·9 per 1000 in the preceding two weeks, further declined last week to 19·4. During the first three weeks of the current quarter the death-rate in these towns averaged 19·9 per 1000, and was 2·7 below the mean rate in the corresponding periods of the ten years 1879-88. The lowest rates in these towns last week were 12·0 in Brighton, 13·9 in Leicester, 14·2 in Birkenhead, and 16·6 in Norwich. The rates in the other towns ranged upwards to 25·6 in Newcastle-upon-Tyne, 28·0 in Blackburn, 28·6 in Manchester, and 37·6 in Preston. The deaths referred to the principal zymotic diseases in these towns, which had been 464 and 436 in the preceding two weeks, were last week 440; they included 177 from measles, 133 from whooping-cough, 42 from diphtheria, 36 from scarlet fever, 33 from diarrhœa, 19 from "fever" (principally enteric), and not one from small-pox. These zymotic diseases caused the lowest death-rates last week in Leicester, Hull, and Derby; and the highest rates in Plymouth, Manchester, Bolton, and Preston. The greatest mortality from measles was recorded in Huddersfield, Preston, Blackburn, Bolton, and Manchester; from whooping-cough in Oldham, Cardiff, Nottingham, Preston, and Plymouth; and from scarlet fever in Sheffield and Blackburn. The 42 deaths from diphtheria in the twenty-eight towns included 22 in London, 6 in Salford, 4 in Bolton, and 3 in Manchester. The mortality from "fever" showed no marked excess in any of the towns; and no death from small-pox was registered in any of the twenty-eight great towns. No small-pox patient was under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet-fever patients in the Metropolitan Asylum and London Fever Hospitals at the end of last week was 570, against 580 and 572 in the preceding two Saturdays; 50 cases were admitted to these hospitals during the week, against 47 and 56 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 364 and 294 in the preceding two weeks, were last week 299, and were 105 below the corrected weekly average. The causes of 64, or 1·8 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Sunderland, Oldham, Portsmouth, Brighton, and in six other smaller towns. The largest proportions of uncertified deaths were registered in Huddersfield, Bradford, Leeds, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·8 and 23·0 per 1000 in the preceding two weeks, further rose to 23·7 in the week ending April 20th; this rate exceeded by 4·3 per 1000 the mean rate during the same period in the twenty-eight large English towns. The rates in these Scotch towns ranged last week from 14·0 and 15·8 in Greenock and Perth, to 29·4 in Glasgow and 29·9 in Paisley. The 607 deaths in the eight towns showed a further increase of 19 upon the numbers in the preceding two weeks, and included 50 which were referred to whooping-cough, 34 to measles, 8 to diarrhœa, 6 to diphtheria, 5 to "fever" (principally enteric), 4 to scarlet fever, and not one to small-pox; in all, 107 deaths resulted from these principal zymotic diseases, against 90 and 87 in the preceding two weeks. These 107 deaths were equal to an annual rate of 4·2 per 1000, which exceeded by 1·8 the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had increased in the preceding four weeks from 31 to 44, further rose last week to 50, of which 39 occurred in Glasgow, 5 in Dundee, and 4 in Edinburgh. The 34 deaths from measles exceeded those in the previous week by 7, and included 23 in Glasgow, 5 in Aberdeen, and 3 in Greenock. The 8 deaths attributed to diarrhœa, of which 5 occurred in Glasgow, also exceeded the number in the previous week. The 6 fatal cases of diphtheria, on the other hand, showed a further decline from the numbers in recent weeks, and included 3 in Glasgow and 2 in Edinburgh. Three of the 4 deaths from scarlet fever and 3 of the 5 from "fever" were returned in Glasgow. The deaths from the principal diseases of the respiratory organs, which had steadily declined in the preceding five weeks from 173 to 122, rose again last week to 140, and exceeded the number in the corresponding week of last year by 14. The causes of 75, or more than 12 per cent., of the deaths registered during the week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·7 per 1000 in each of the preceding two weeks, declined to 23·5 in the week ending April 20th. During the first three weeks of the current quarter the death-rate in the city averaged 25·0 per 1000, the mean rate during the same period being only 17·9 in London and 17·8 in Edinburgh. The 159 deaths in Dublin showed a decline of 15 from the number returned in each of the previous two weeks; they included 3 which were referred to whooping-cough, 2 to measles, 2 to "fever," 1 to diarrhœa, and not one either to small-pox, scarlet fever, or diphtheria. Thus the deaths from these principal zymotic diseases, which had been 7 and 21 in the previous two weeks, declined again last week to 8; they were equal to an annual rate of 1·2 per 1000, the rates from the same diseases being 2·0 in London and 1·6 in Edinburgh. The fatal cases both of measles and of whooping-cough showed a considerable decline from the numbers in the previous week. The two deaths from "fever" were below the average, and corresponded with the number in each of the previous two weeks. The deaths both of infants and of elderly persons showed a decline from the numbers in the preceding week. Three inquest cases and 3 deaths from violence were registered; and 51, or nearly a third, of the deaths occurred in public institutions. The causes of 19, or nearly 12 per cent., of the deaths in the city were not certified.

Correspondence.

"Audi alteram partem."

METROPOLITAN SEWAGE DISPOSAL.

To the Editors of THE LANCET.

SIRS,—I made no reply to Dr. Dupré's letter in your issue of March 9th, as I thought that your leading article was quite a sufficient answer. Dr. Dupré, however, it seems, does not think so, but still maintains that the action of the Metropolitan Board of Works did not run counter to the recommendations of the Royal Commission on Metropolitan Sewage Discharge. Let us see if this is the case.

The Royal Commission recommended that, after precipitation of the solids, the effluent sewage should be either utilised on land or discharged into the river "at least as low as Hole Haven." Did the Metropolitan Board of Works loyally set about carrying out these recommendations? On the contrary, they set to work to find out how they could evade them. Instead of taking the advice of the Royal Commission, they consulted four "independent chemists of the highest standing" (of whom Dr. Dupré was one), who advised that, if the effluent water were treated in a particular way, it would be sufficiently purified to be discharged into the river at the present outfalls at all states of the tide—a plan which, as you pointed out, had been considered and rejected by the Royal Commissioners. Fortified by this advice, the Board commenced the construction of extra precipitating tanks, at, as I have said, "an enormous expense," and this notwithstanding the fact that their own special chemical adviser, Sir Henry Roscoe, whose authority even Dr. Dupré will admit, went out of his way to warn them "that sooner or later the recommendations of Lord Bramwell's Commission will have to be adopted, and that the sewage, whether previously clarified or not, must either be filtered through land or discharged into the estuary at a point not higher than the Sea Reach"; significantly adding that "the growth of the metropolis during the quarter of a century which has elapsed since the adoption of the present main drainage and outfall system has been so enormous that arrangements which worked satisfactorily up to some few years ago are now found to be inadequate, and will of course become more so as time goes on."

Dr. Dupré says that one of the four eminent chemists consulted was "the only chemist by profession on the Royal Commission," and leaves it to be inferred that the only chemical authority on that Commission gave his sanction to the processes adopted by the Board. This is very

like a *suggestio falsi*, for besides Professor Williamson, whose position as a chemist of the highest standing none can gainsay, there were also on that Commission the late Dr. De Chaumont, the accomplished Professor of Hygiene at the Army Medical School, and the highest authority on hygienic chemistry; and also Dr. Thomas Stevenson, the able teacher of chemistry at Guy's Hospital Medical School, and one of the toxicological advisers of Her Majesty's Government. Surely their opinion is not diminished, but is considerably enhanced, by the fact that they, besides being chemists, were also medical men and practical sanitarians.

So far from withdrawing my assertion, I repeat that, in my opinion, the present scheme "will not only not settle the question, but will rather increase the difficulties of settling it effectually, and will be pointed out by succeeding generations as a disgrace to the sanitary work of the nineteenth century!" Other countries have learnt from us how to dispose of the sewage of their capital cities. It seems that it is now our turn to learn from them. Some years ago I had the honour of accompanying Prof. Virchow to visit some of the sewage farms in this country, and now the sewage of Berlin is disposed of in a manner which gives satisfaction to all upon a series of farms around the city. The Paris Senate has decided on the disposal of a great part of the sewage of Paris in a similar manner, and the chairman of the committee appointed by the Senate, M. Cornil, writes to me: "You ought yourselves at London to dispose of the sewage by filtration through soil, at a cost to the City of London, the city constructing all the sewers and giving the sewage gratuitously to farmers; or, on the other hand, the city managing the farms itself, as is done at Berlin."

Finally, Dr. Dupré claims "that the plan adopted by the late Metropolitan Board of Works is by far the cheapest brought forward up to the present time." I can tell him a cheaper and a better one which they might have adopted—viz., not to have consulted anybody and not to have done anything at all; then, at any rate, money would not have been wasted on the ridiculous plan of constructing huge precipitation tanks in a place where there is no means of disposing of the sludge except by sending it out to sea in barges; while it is notorious that there are thousands upon thousands of acres of land lower down the river which would be benefited by its application to them; and then the successors of the Board would have been left free to deal with the question in a manner worthy of the great city which they represent.

I remain, Sirs, yours truly,

Savile-row, W., April 17th, 1889. W. H. CORFIELD.

ROYAL COMMISSION ON VACCINATION.

To the Editors of THE LANCET.

SIRS,—Since a Royal Commission is to be appointed to report on the whole subject of vaccination, I think it very desirable that all those interested in the question should now, before it is too late, state their views, which, even if not quite correct, may help to throw some light on the failure of vaccination to be as absolutely protective as it used to be considered, and as it no doubt should be if carried out under in all respects favourable circumstances. As medical officer to an orphanage in this neighbourhood, I have revaccinated with calf lymph 182 persons (children and nurses), with only twelve failures. These twelve persons represent the total of the protected, or properly vaccinated, out of that number. All the others, although most of them showed scars of previous vaccination, were not protected against inoculation with cow-pox, and much less so against a possible attack of small-pox. With the experience of the outbreak of small-pox at the school at Manchester, where sixty children out of 120, although all vaccinated, became infected, these figures are a very serious indictment against vaccination as at present carried out. And although Dr. Barry's statement of facts observed at Sheffield during the recent epidemic are very favourable to Jennerism, they show that a far too large number of vaccinated persons contracted the disease. I am convinced that ordinary humanised lymph has, from one cause or another, become so attenuated that it no longer affords the protection that a better quality would do. If calf lymph or only a certain definite number of removes from it were always used, no doubt the results would be more favourable to the system. I have heard of one instance of recultivations from the same original stock having been used for over twenty years, and no doubt there are many such samples of lymph in existence. Now, although Jenner's vaccine virus is supposed to have attained a condition which is, with regard to its power of thriving in the human body, fixed and definite, still it is possible that there may be a limit, beyond which its virulence commences to diminish as it does in so many other forms of disease, as one may observe in the natural history of every epidemic, which finally wears itself out, the attacks becoming less and less virulent as the disease is transmitted from one individual to another. There is another probable source of attenuation in the common practice of storing lymph in tubes and on points for a long time before using it, which will no doubt have the same effect on vaccine virus that Pasteur found it had on that of anthrax. There are many other objections to the practice of vaccination which would be obviated by the general use of calf lymph, but I fear I have already trespassed too far on your valuable space to allude to them.

I am, Sirs, yours truly,

West Hampstead, April, 1889. W. D. WATERHOUSE.

THE ANTI-VACCINATION MOVEMENT.

To the Editors of THE LANCET.

SIRS,—Cannot something more be done to prevent a repetition of such scandalous libels than the simple comment published by you in THE LANCET of the 20th inst.? Surely the proprietors of the *Echo* could be compelled to divulge the name of their correspondent, the quondam assistant, in order that he might be indicted as an accessory to what was, at the least, a criminal, if not actually a murderous, line of conduct on the part of his employers. "Dentist, Strand, W.C.," would then in self-defence either give up the names of the two public vaccinators and the Government teacher of vaccination, or he would repudiate his allegation; so that in either case the whole body of public vaccinators might be justified. It is simply monstrous that a profession so nearly ruined commercially by its own unselfish disinterestedness should be blasted morally by the slanders of an anonymous traducer.

I am, Sirs, yours truly,

ALAN REEVE MANBY, M.D. & P.V.

East Rudham, April 21st, 1889.

"FOUR CASES OF HYDATID CYSTS OF THE LIVER, WITH REMARKS."

To the Editors of THE LANCET.

SIRS,—Working at surgery in a foreign land, and trying to represent to the best of my ability the most recent advances in our art—which, I am proud to say, so often come from England,—I ask, am I to take the treatment of hydatid tumours as exemplified by four cases recorded by Mr. Morris as the present position of British surgery with regard to this disease? Mr. Morris writes as follows:[1] "The plan of treatment I now adopt for all ordinary cases of hydatid of the liver is first to try the effect of evacuating the fluid contents by the aspirator, and, if this fails after one or more repetitions, to cut down upon and expose the cyst, tap it, and, having removed the fluid part of its contents, to incise its walls and stitch their divided edges to the edges of the incision in the abdominal parietes." Briefly, he recommends incision and drainage, without any washing out of the solid contents of these tumours. What result does he obtain? Read the second of his cases.[2] In this case, through the cloud of carbolic spray, we can see numerous sloughing daughter cysts, coming away during the first week after the operation, with the temperature above normal for a fortnight. We are told that the subsequent convalescence was rapid and uninterrupted, yet the patient suffered from a suppurating sinus for two years.

Such results seem to me but little better than the old fatal method of puncture with a large trocar, leaving a permanent opening. Is there any reason why we should abstain from washing out the solid contents of the tumour at the time of operation? Mr. Morris gives his reason very clearly at the end of his remarks as follows: "One important precaution is observed after laying open the cyst. It is, never to pull away any still adhering part of the parent cyst, but to leave it to loosen and be cast off. There

[1] THE LANCET, March 16th, p. 529. [2] Ibid. March 9th, p. 479.

is often a great temptation at the operation to remove large portions of partially adherent cyst wall, but it should be resisted, for fear of inducing considerable, and may be even fatal, hæmorrhage."

I shall be sorry to learn that this is the case, for I have operated by this method of incision and drainage, and I know that it takes a month for the parent cyst to loosen and come away. It is evidently impossible to efficiently drain a cavity while solid shreds of hydatid membrane are peeling from its walls. I have since been able to wash out completely at one operation all the contents of a large hydatid cyst of the liver. I am persuaded that this is the better way.—I am, Sirs, yours faithfully,

W. ALEX. MACKAY, M.B., C.M. Edin.

Huelva, Spain, March, 1889.

THE GENERAL PRACTITIONER'S GRIEVANCE.

To the Editors of THE LANCET.

SIRS,—While the general hospitals of London are much abused, and take patients who could afford the modest fees of a general practitioner and are certainly not subjects for charity, there is a much greater grievance against some of the special hospitals. These quasi-charitable institutions, more especially those which levy a contribution from their patients, undoubtedly attract from all parts of London and its surroundings large numbers who would otherwise be content with their regular medical attendant. The patients think they can get equally good advice; whatever they get, it is obtained cheaper, and from an authority assumed to be almost infallible in their eyes and for their particular maladies. When patients of almost all grades of society can attend *by payment of what they can afford*, it is very easy to see how open to abuse these institutions may be. Let anyone visit the out-patient departments and see the representatives of the various degrees of wealth and position rubbing shoulder to shoulder; and when they notice how small a thing pride can be, they will also see how many patients the general practitioner unjustly loses. This is my experience and the experience of others. It is little wonder that the profession is suffering so severely from internal competition.

I am, Sirs, yours faithfully,

Montague-street, W.C., April, 1889. T. FREDERICK PEARSE.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Stanley Hospital.

DURING Whit-week a bazaar is to be held in Stanley Park on behalf of the Stanley Hospital. It is satisfactory to learn that so far everything promises favourably. The hospital was built twenty years ago, in what was then a northern suburb of Liverpool, in anticipation of its being not only largely increased, but also merged into the city, which circumstances have both occurred. The hospital, which was at first of most modest dimensions, has been considerably enlarged in recent years by additional wings, but its managers are prevented by want of funds from keeping up more than a very limited number of beds. It is hoped that the sum realised by the bazaar will be sufficient to free the hospital from present difficulties, and to enable the committee to place the whole of the beds in the hospital at the disposal of the medical staff for the benefit of the many applicants who are at present unable to obtain admission.

A Child Suffocated; Committal for Trial of its Parents.

In Liverpool there have been for many years past a large number of infants found dead in bed with one or both parents under circumstances of greater or less suspicion. Usually the verdict has been "Accidentally overlain." Even setting aside all criminal intent, in too many cases there has been such culpable neglect of reasonable care as to make the circumstance approach to, if it be not actually, manslaughter. An inquest was held to-day by the city coroner on the body of an illegitimate child which had been found dead in bed with both its parents on the morning of the 20th. They went to bed together in a state of intoxication the previous evening. A post-mortem examination showed appearances of suffocation. The coroner, in addressing the jury, referred to what Mr. Justice Charles at the last assizes had laid down—viz., that gross neglect on the part of parents to children resulting in death would amount to manslaughter. Therefore in becoming drunk the parents of this poor child had failed to give proper attention to it. The jury found that there had been gross neglect on the part of the father and mother, and consequently they were committed to the assizes on a charge of manslaughter.

Bank Holiday Accidents.

As is usual, on Easter Monday an enormous number of excursionists sailed from this city to New Brighton, Cheshire, the number conveyed by the ferry steamers being estimated at 70,000. No accidents occurred during the passage, but on the Cheshire shore a lad aged ten sustained a contused ankle from the kick of a horse. An elderly woman received a similar injury, and a child sustained a slight concussion of the brain, also from the kick of a horse.

Another Swing-boat Fatality.

An inquest was held to-day by the city coroner on the body of a girl sixteen years of age, who while swinging in a small swing-boat stood up to adjust her dress, lost her balance, and fell out. When picked up she was insensible, and continued so until her death, which took place some days afterwards. No blame was attached to anyone, and the verdict was one of accidental death. Now that so many persons have fallen victims to this special pastime, it seems only reasonable that until a perfectly safe swing-boat has been invented all others should be forbidden.

Liverpool, April 24th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A Gruesome Advertisement.

THE following advertisement appeared in one of the evening papers in the city, on the occasion of the funeral of a high dignitary of the Roman Catholic Church:—"The coffin which bore the remains of the late —— —— was made by ——, undertaker, ——, who conducted the funeral to Stone." The questionable notoriety which would be the result of this notice must surely be counterbalanced by the offence it must cause to the friends of the deceased, and the disagreeable impression it would be likely to produce as being contrary to all right feeling and good taste.

National Physical Recreation Society.

The members of the Birmingham Athletic Club and their friends are jubilant upon the success of the recent contest, in which, after a close struggle, they became victors by one point only.

Ear and Throat Hospital.

The forty-fourth annual meeting of this charity was held on the 7th inst., the mayor in the chair. The out-patients were 1656 in number, the registration fees producing £392 7*s.* In addition to these, 162 patients were admitted free. The annual subscriptions were: renewals, £200 11*s.*; new, £22 1*s.*; as against a total of £216 6*s.* 6*d.* in 1887. The statement of accounts showed a balance of £83 3*s.* 9*d.* to the good, independently of £1600 to the credit of the extension fund.

Infectious Diseases Hospital for Tamworth.

An inquiry was held on the 2nd inst. relative to powers to borrow £220 for the purchase of a site for a hospital for twenty beds. The application was a joint one from the Town Council and rural authority, the population of the union being 22,500 and that of the borough about 5000. It was pointed out that such a building was much needed, and there is every probability of the inquiry having a successful issue.

Birmingham, April 22nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Middlesbrough.

THE Tees port sanitary authority reports that of the 2228 vessels visited during the past year the sanitary condition of no fewer than 1794 was given as good, while 313 were passable, and only 121 defective. The work is not confined exclusively to the Tees, as advices relating to sickness and sanitary defects are forwarded to and received

from other port sanitary authorities, thereby ensuring a continuity of inspection on vessels requiring it. In effect, the work done by the authority while acting as an insurance against the importation of infectious disease also much improves the sanitary surroundings of all who live on board our ships.—At the last meeting of the sanitary committee of the corporation, the medical officer for the borough, Dr. Malcolmson, was requested to give his views on the cremation question, and he says that from a sanitary point of view our present mode of sepulture is objectionable. Cremation is a clean, rapid, and harmless way of accomplishing what the present method of earth-burying did by a slow, repulsive, and dangerous process. He concludes his report by an expression of hope that in the interests of economy, sanitary reform, and even sentiment, cremation would commend itself not only to the Middlesbrough corporation, but to sanitary authorities generally.—As regards the pneumonia epidemic so lately prevalent in the Middlesbrough district, Dr. Ballard's interim report is a subject of much discussion. Dr. Glen, medical officer of the Normanby Local Board, in his report as to the question of contagion held by Dr. Ballard, remarked that "it seemed to him (Dr. Glen), however, a regrettable fact that this categorical, this emphatic, enunciation of opinion should have been unaccompanied by any arguments to substantiate the statement."

Bishop Auckland.

Mr. McCullagh, the medical officer for the No. 1 district, points out the marked increase of cancer in his district during the past year, the cause of which is unknown, and regrets that the Government has refused to appoint a special commission of scientific men to investigate the subject.

Measles Epidemic in West Cumberland.

It is said to be many years since measles prevailed to such an extent as it does at present in West Cumberland. The town of Wigton is reported to have been the principal sufferer, but the disease has assumed epidemic proportions in other towns, notably in Maryport, where the trustees of the harbour have had a special meeting, and have resolved to close all the schools of the town and to ask the superintendents of the Sunday schools to follow suit. At Wigton the schools, with one exception, have been closed. In one small street there have been as many as thirty cases at the same time; in another street the number of children suffering has been much greater. Fortunately the disease is not very virulent, and the mortality from it has not been great. The disease is also very prevalent in the Blagdon and Winlaton districts near Newcastle.

Newcastle-on-Tyne, April 24th.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh University General Council.

AT a small meeting of the General Council of the University of Edinburgh, presided over by the Principal, Sir William Muir, two matters of moment to the medical world were brought forward and discussed. It will be remembered by those who take an interest in the Scottish Universities Bill that very considerable powers are granted to the Commissioners under the Bill in regard to the extension and regulation of extra-mural teaching. Such powers, it is now contended by the committee of the Council, should be in the hands of the University Court, to whom all matters connected with the affiliation of colleges are relegated. This contention is certainly reasonable, for the conditions of extra-mural teaching are at least as likely to be subject to changes in future years as are the conditions demanding changes as regards affiliation. It would be neither just nor politic to lay down hard-and-fast rules for the regulation of extra-mural teaching for all time to come, and this is certainly what would have to be done if the Commissioners, a temporary body, are to be allowed to stereotype, as one speaker put it, the forms and conditions of extra-mural teaching. Extra-mural teaching will, in the first instance at any rate, be confined to the Medical Faculty; and, much as Edinburgh owes to its University Medical School, it must be remembered that many of those whose names have made the University famous won their academic spurs in the extra-mural schools, so that this is a matter not to be thrown aside as one of but slight importance. The second point brought forward of interest to the medical profession, especially the local members, was the relation of University graduates to the Edinburgh charities. Some time ago Dr. Haddon brought the matter before the University Council, and it was left in the hands of the secretary to obtain such information as he could on the subject for the information and guidance of the Council. He now reported that the secretary of the Royal Infirmary had written on behalf of the managers of that institution, that, having fully considered the petition, they were unanimously of opinion that, both by their original charter and by subsequent resolutions of the managers, the Board were absolutely bound to elect their physicians from the Royal College of Physicians of Edinburgh. The secretary of the Royal Public Dispensary wrote an answer to the same effect, and added that it was the general opinion of the managers that in the present circumstances no advantages would accrue to the dispensary from the relaxation of the restriction. In the discussion that followed it was made clear that it was not the M.D. of Edinburgh only for which the fight was going on, but for all British M.D. degrees. This is a step in the right direction, for whatever restrictions were at one time necessary (at the time at which the College of Physicians was founded), to guard the dignity of the profession), it is in the present day an anachronism, and one which must be cleared away in Edinburgh, as in institutions in other large cities and towns.

The Royal Botanical Gardens.

The opening of these gardens on Sunday has been attended with the best results. Large numbers of people have resorted to the quiet of these beautiful grounds, and no damage has been done either to the walks or the plants. Some of the "unco' guid" may have suffered as they meditated in the quiet of their own gardens over the evil course of allowing people hitherto less favoured than themselves to enjoy similar meditation and refreshment of bright sun and fresh air.

Edinburgh University Graduation Ceremonial.

This week the University must bulk largely in the Edinburgh news, for the simple reason that, with the exception of the political question of the hour, it has occupied the largest space both in the public mind and in the public prints. On Thursday, the 18th, the Arts graduation ceremonial took place. In addition to those mentioned some time ago as likely to receive the degree of LL.D., it should be noted that the degree was conferred upon another distinguished member of our profession—Mr. Francis Day, C.I.E., M.R.C.S., F.L.S., and F.Z.S., Deputy Surgeon-General, who was, however, too ill to attend in person. Mr. Day's researches in ichthyology are well worthy of such acknowledgment. Mr. James Ward, M.A., D.Sc., Fellow of Trinity College, Cambridge, known as a student not of philosophy and psychology only, but as an earnest seeker after truth in the biological and physiological laboratory, had a similar honorary degree conferred upon him. There were only two medical degrees conferred: the M.D. upon Harold Scurfield, M.B., C.M., who took as his thesis "The Antiseptic Treatment of Scarlet Fever"; and the degree of M.B. and C.M. upon Christopher Wm. Yeoman. In the department of Public Health, the degree of Bachelor of Science was conferred upon T. Proudfoot, M.B., C.M., and W. G. Aitchison Robertson, M.B., C.M. There were two honorary D.D. degrees conferred; eight other honorary LL.D. degrees, one LL.B., one B.L., fifteen B.Sc., ten B.D., nineteen M.A. (with honours), and eighty-four M.A. (pass). Professor Sellar addressed the graduates on the subject of competitive examinations, a fitting one for men who have been making a personal study of their merits and defects during the last three or four years. There would probably be a considerable difference of opinion amongst the members of his audience, but many would certainly agree that, whatever may be the outcome of the recent agitation, as regards necessary or prudent modifications of the system, it would be well that we should realise what a blank would be created by the abolition of a system which had done such good service to culture for nearly a century.

Edinburgh University Court.

At the meeting of the Edinburgh University Court, a minute of the Senatus, approving of the proposal to require an increased amount of instruction in practical midwifery in the case of candidates for graduation in the University of Glasgow, was received. It was resolved that the Court

should intimate to the Lord President of the Council that they saw no objection to the proposed alteration. Dr. Alexander Napier was recognised as a teacher of medicine in Glasgow, whose lectures on materia medica should qualify for graduation in medicine in the University of Edinburgh. Professor Percy F. Frankland, Ph.D., was recognised as a teacher of medicine in Dundee, whose lectures and course of practical instruction in chemistry should qualify for graduation in medicine in the University of Edinburgh, subject to the condition that only day lecture classes should qualify, and that a qualifying certificate should not be granted to a student unless he should have received instruction in the chemistry of the non-metals, the chemistry of the metals, and organic chemistry.

Bequest to the University of Edinburgh.

The Infirmary, the Colleges, and the University have all received windfalls during the present year, but the most recent is perhaps the largest individual sum that has fallen to the share of any of these bodies corporate. Major Crichton of Linn, Dalry, has left the residue of his estate, amounting to about £30,000, to the University of Edinburgh, for the endowment of bursaries and scholarships.

Edinburgh, April 23rd.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

King's Professor of Midwifery: School of Physic.

BY the lamented death of Dr. J. Rutherford Kirkpatrick, this appointment has become vacant, and it is believed that Dr. A. V. Macan, Master of the Rotundo Lying-in Hospital, will be appointed his successor.

The Royal Barracks, Dublin.

The interim report of Mr. Rogers Field, who was appointed to examine into the sanitary condition of these barracks, was issued last week as a Parliamentary paper. Mr. Field states that until his investigations are completed he is unable to draw any general conclusions or offer any complete recommendations; but he makes a number of suggestions which may be effected in the drainage and sanitary appliances. These consist of examination of drains, ventilation of same, removal of old disused drains, thorough overhauling of watercloset, &c. On the matter of subsoil drainage, he does not appear to be in accord with Sir Charles Cameron's recommendation that the thorough subsoil drainage of the whole site of the barracks be carried out, inasmuch as he recommends that this suggestion, which has not yet been adopted, be omitted. This being only an interim report, the public must wait until Mr. Field comes to some conclusion as to the prevalence of typhoid fever in these barracks; but it is not very flattering to those who make sanitary matters a study to find that everyone who examines these buildings has a different solution to explain the unenviable reputation they possess.

Monkstown Hospital.

At a special meeting of the committee last week, it was resolved to improve the sanitary condition of the hospital, by, amongst other measures, the building a mortuary and adding two "observation" wards, making an increase of five beds. The cost of these proposed additions is estimated at £1850, and a sub-committee has been appointed to make an appeal for funds.

Accident to Dr. Crombie.

At the marriage of Dr. Crombie to Miss Osborne of Derry, last week, an accident which might have had an unfortunate termination took place. Dr. Crombie and his bride were leaving Clooney Park for their honeymoon tour, when the horse ran away. The driver, to add to the danger, fell off the brougham, and after the terrified animal had raced nearly half a mile, Dr. Crombie, at great risk, got out of the carriage and succeeded in stopping the runaway. One side of the brougham was smashed, but the occupants fortunately escaped unhurt.

Adelaide Hospital, Dublin.

Some amateur dramatic performances will take place this week, the proceeds to be devoted to the Special Appeal Fund which has been made on behalf of this institution.

Dublin, April 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Erysipelas and Lymphangitis.

PROFESSOR VERNEUIL made a communication last week to the Academy of Sciences on erysipelas and acute lymphangitis. Erysipelas, he said, is a contagious and transmissible affection, the microbe of which is known. Lymphangitis is also a virulent malady, very analogous to erysipelas. In conjunction with Dr. Clado, Professor Verneuil has demonstrated the identity of these two affections. These experimenters took pus from abscesses "en chapelet," in patients affected with acute lymphangitis, which they cultivated. Rabbits were inoculated with the cultures, and erysipelas was produced. It was therefore concluded that the same microbe determines erysipelas and lymphangitis.

General Pseudo-paralysis.

In a work recently published by Dr. Baillarger on General Pseudo-paralysis, the author inquires what place this form should occupy in the classification of mental maladies: whether it should be placed among the cases of insanity or the curable forms, or whether it should be ranked with dementia or incurable forms? The question seems rather difficult to determine, for if general pseudo-paralysis is cured, and this marks its state of pseudo-paralysis, there are other forms of this affection which end, after several repeated attacks, in true paralysis. The following are the conclusions of the author:—1. It is perfectly demonstrated that lunatics may exhibit for a variable time all the symptoms of general paralysis without the disease being really present. All these patients, with or without antecedents of alcoholism, saturnism, or of syphilis, are pseudo-paralytics. 2. The forms of general pseudo-paralysis end by cure or by simple dementia without paralysis. 3. In a fairly large number of cases the cures are only temporary, and in course of time one often sees the patients, if they do not succumb to acute cerebral accidents, die with all the symptoms of veritable general paralysis. 4. General pseudo-paralysis, with exaltation, which has been separated from true general paralysis, cannot, on the other hand, be classified with cases of simple insanity. It is, in fact, very distinct: (*a*) by the character of the delirium; (*b*) by hesitation in speech, and most frequently by inequality of the pupils; (*c*) by the gravity of the prognosis, the patients after their apparent cure being frequently affected later on with general paralysis. This affection should, therefore, be assigned a separate place in the classification of mental maladies.

Saccharin as an Antiseptic.

Dr. Fourrier of Compiègne writes that since it has been asserted that saccharin hinders the action of the digestive fermentations, and that clinical observation has shown that its ingestion is susceptible of troubling more or less profoundly the functions of digestion, it has been prohibited as an alimentary substance. But saccharin remains a medicament, and, according to the experiments lately undertaken by Dr. Constantin Paul, it may be placed in the class of antiseptics. As such, Dr. Fourrier thought it rational to try it in the treatment of aphthæ, and clinical experience fully confirmed his theoretical previsions. The author treated ten cases of aphthæ following measles by paintings with a solution of saccharin. Eight times the milky patches disappeared in twenty-four or thirty-six hours. Twice only they resisted for three days. But in these two cases the paintings were evidently not properly executed. The following solution was employed: saccharin 1 gramme, alcohol at 60°; a teaspoonful in half a glass of pure water, with which five paintings should be practised per day. A more concentrated solution would be hurtful, as has been shown by several cases.

Prohibition of Public Hypnotic Exhibitions.

Within the last few years competent authorities of different countries have been preoccupied with the inconveniences and injury that may result to public health and morality by the vulgarisation of hypnotic phenomena. Experiments of suggestion or hysterical exhibitions have therefore been interdicted before a non-medical public, as it has been found that such exhibitions of hypnotism and of hysterical subjects can only serve to augment the number of nervous

people. It is desirable that the same interdiction should be applied to professional magnetisers.

Special Vehicles for Conveyance of Patients.

A very laudable measure has been taken by the authorities in Paris to prevent the propagation of diseases by placing gratuitously at the disposal of the public special vehicles for the conveyance to hospitals of patient affected with contagious maladies, such as small-pox, measles, scarlet fever, diphtheria, typhoid fever, &c. To obtain one of these vehicles it is sufficient to apply at a police station, giving the name and address of the patient and the nature of the malady. These vehicles, comfortably arranged and warmed, are carefully disinfected each time after use. They are always ready by night or by day. The patients can sit or recline, according to requirement.

Paris, April 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cerebro-spinal Meningitis.

CASES of cerebro-spinal meningitis, which used to be quite rare here, have become much more numerous of late; and, as this generally fatal disease is now understood to be infectious, the Berlin police are about to take measures to prevent it from spreading. On and after May 1st next, every physician will be required to report any case occurring in his practice without delay to the Royal Sanitary Commission. So far as possible patients are to be isolated. Children of families in which there are cases are to be kept from school till the danger of infection be medically certified as past. The sick-rooms, the linen and cotton articles, especially the handkerchiefs used by the patients, their clothes, &c., are to be thoroughly cleansed and disinfected. These regulations will be enforced by penalties.

Advanced Medical Instruction.

About three hundred physicians from different parts of Germany and other countries are in Berlin just now, and taking part in courses of advanced medical instruction which are in progress. For some years past these courses have been got up every spring and autumn by the military authorities and by the Society of Lecturers for Medical Holiday Courses, and especially those arranged by the society are in increasing favour. The number of participants in these latter courses this year is 276, the highest yet reached. They consist of physicians not only from Prussia, Saxony, Bavaria, and Austria, but also from England, France, Spain, Italy, Russia, Sweden, Norway, North and South America, and Japan. These courses began in the middle of March, and will be closed on the 15th inst.

The Physiological Institute.

The Physiological Institute here, the workshop of the great physiologist, Professor Du Bois-Reymond, where many experiments on animals are made, possesses, among other things, a complete aquarium, consisting of nine translucent tanks, some containing fresh water and others salt. The institute also contains a large room full of rabbits and guinea-pigs, for which a little lawn is provided in summer. It also possesses a ranarium, in which are 700 frogs, divided into thirty-one departments, to prevent the spread of the frog disease. The dogs, too, are kept in separate kennels, and have a special kitchen for themselves.

Poisonous Mussels.

The sad cases of poisoning by sea mussels in Wilhelmshaven in 1885 are still in general remembrance, but all efforts to discover their cause have hitherto failed. It was first proved by Dr. Schmidtmann that the violent and often fatal inflammation of the intestines which followed the eating of these mussels must have been caused by a disease of the mussels themselves, which had been taken from the stagnant parts of the harbour water. Professor Brieger of Berlin then extracted from the mussels a poison belonging to the class of putrid or poisonous products of the nutritive processes in men and animals, and called it "mytilotoxin." Professor Max Wolff has shown that the liver of mussels is the chief seat of this poison; and now Dr. Lustig believes that he has found the germ of the disease in a bacillus invariably detected by him in the livers of mussels gathered from the stagnant waters of the harbours of Genoa and Trieste. This micro-organism, when transferred to the bodies of rabbits and guinea-pigs, killed them in from twelve to twenty-four hours by inflammation of the intestines, indistinguishable from that caused by the poisonous mussels. After death large quantities of the bacillus were found in the hearts, abdominal organs, and blood of the inoculated animals. These microbes soon lose their effect, and after six days inoculation is unsuccessful. It may therefore be assumed that only young microbes render mussels poisonous. In healthy mussels, taken from clean and not stagnant water, the bacillus has never been found.

Berlin, April 12th.

THE SERVICES.

ADMIRALTY.—Staff Surgeon Thomas Lyle Horner has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet (dated April 17th, 1889).

The following appointments have been made:—Staff Surgeon Henry D. Walsh to the *Daphne*, and Staff Surgeon Bernard Renshaw to the *Devastation* (both dated May 2nd, 1889); Surgeon Horatio S. R. Sparrow to the *Duke of Wellington*, additional, for temporary service at Haslar Hospital, and Surgeon G. Bate to the *Royal Adelaide*, additional, temporarily (both dated April 20th, 1889).

MILITIA MEDICAL STAFF.—Surgeon-Major A. Ashby, 4th Battalion, the Lincolnshire Regiment, resigns his commission; also is permitted to retain his rank and to wear the prescribed uniform on his retirement (dated April 24th, 1889).

VOLUNTEER CORPS.—*Engineers* (Fortress and Railway Forces): 1st Cheshire: Acting Surgeon E. M. Laffan is appointed Second Lieutenant (dated April 24th, 1889).—Submarine Miners, the Falmouth Division: Acting Surgeon E. H. Moore to be Surgeon (dated April 24th, 1889).—*Rifle:* 2nd Volunteer Battalion, the Royal Welsh Fusiliers: Acting Surgeon J. Williams resigns his appointment (dated April 24th, 1889).—3rd Volunteer Battalion, the Queen's Own (Royal West Kent Regiment): Acting Surgeon A. Macfadyen, M.D., resigns his appointment (dated April 24th, 1889).—5th Volunteer Battalion, the Princess Louise's (Argyll and Sutherland Highlanders): Surgeon J. Denniston, M.B., resigns his commission (dated April 24th, 1889).

Obituary.

JOHN RUTHERFORD KIRKPATRICK, M.D.

DR. KIRKPATRICK died at his residence, Upper Merrion-street, Dublin, last week, after a tedious illness, at the age of fifty-seven. He devoted his attention to the obstetric branch of the profession, and held various appointments—among others, that of King's Professor of Midwifery in the School of Physic of the University of Dublin, Obstetric Physician to Sir P. Dun's Hospital, and Examiner in Midwifery, College of Physicians. He obtained the Fellowship of the Royal College of Surgeons in Ireland in 1857, but for personal reasons relinquished it, and was admitted a Fellow of the College of Physicians in 1879. His seven years' tenure of office as King's Professor of Midwifery would have terminated in July, and very recently he was re-elected for a further term of seven years by the College of Physicians. His contributions to medical literature included "The Prevention of Accidents from the use of Pessaries" and "The Management of the Perineum during Delivery." His remains were interred last Saturday in Mount Jerome Cemetery, the funeral being a large and representative one.

GEORGE WOODS, F.R.C.S.

THIS gentleman, who died at his residence in Southport last week, was born at Liverpool in February, 1817. The deceased was educated at the St. George's and Charing-cross Hospitals, at the latter of which he gained high distinction. In 1840 Mr. Woods took his M.R.C.S., and shortly afterwards commenced practice in Liverpool, where he acted as medical officer of the Fever Hospital. In 1853 he settled at Southport, where he developed an

extensive connexion, and where he was honorary surgeon, and subsequently honorary consulting medical officer of the Convalescent Hospital. The deceased, who obtained his Fellowship of the English College of Surgeons in 1868, was of a kindly and genial disposition, and highly esteemed by all who knew him.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board on the 17th inst. in the subjects indicated:—

Physiology only.—H. Gillett and R. S. Whitford, of Charing-cross Hospital; G. R. Adcock and W. R. Knightley, of St. Bartholomew's Hospital; H. Francis and F. W. Lewis, of St. Mary's Hospital; C. A. Kitching and W. C. Orme, of London Hospital; and C. F. Poole, of St. Thomas's Hospital.

In Anatomy 437 candidates presented themselves, of whom 280 passed and 157 were referred; in Physiology 468 candidates presented themselves: 245 passed and 223 were referred.

UNIVERSITY OF EDINBURGH.—The following is the official list of candidates who passed the Second Professional Examination in Medicine in April:—

T. S. Adair, *E. H. Alexander, James Allan, J. D. C. Allen, W. S. Anderson, D. H. Balfour, W. F. Bauchop, J. H. Bayley, R. M. Beattie, W. H. H. Bennett, J. R. Bibby, Alfred Bienemann, W. A. Black, J. A. Bower, William Bower, W. H. Boazman, G. E. Bowker, P. H. Boyden, J. E. Brandt, T. M. Brown, F. L. Brown, M.A.; Robert Brown, S. B. J. Bulteel, J. R. Burnett, Percy Capper, William Carmichael, G. C. Cathcart, H. M. Chasseaud, *R. D. Clarkson, C. J. Van Coller, *Robert Cran, H. G. Critchley, B.A.; S. B. Davis, A. J. Dearden, J. A. Dick, D. S. Dixson, *W. B. Drummond, Alex. Dunbar, A. S. Duncan, *George Elder, F. W. Eurich, O. F. Evans, R. M. Fenn, E. C. Fischer, George Fleming, Samuel Fleming, J. W. Forbes, J. A. Foulis, D. C. Gardiner, S. A. Gibbs, E. V. Gibson, H. J. Glover, E. H. Gomin, A. C. E. Gray, Wm. Griffith, C. N. Hamper, J. M. Hermon, O. B. Hollard, G. J. B. Hope, *R. M. Horne, John Howard-Jones, James Huskie, W. M. Hutton, A. E. S. Jack, G. B. Jameson, J. H. Johnson, E. H. Jones, A. B. Kenworthy, *W. S. Kerr, J. G. Kershaw, J. J. J. Kotzé, J. R. P. Lambert, L. T. Lancaster, Thomas Lawson, James Lawson Williams, W. L. Legg, W. F. C. Lowson, J. D. L. Macalister, A. J. M'Callum, A. G. Macdonald, John Macdonald, T. F. Macdonald, Archibald Mackintosh, F. R. Mallett, R. B. Martin, *J. Ackworth Menzies, H. N. D. Milligan, T. H. Milroy, R. U. Moffat, J. R. Monnier, J. M'C. Morrison, C. D. Murray, J. S. M. Nurse, W. H. Ogilvie, W. H. B. O'Neill, *John Orr, T. W. Parkinson, W. J. Peddie, W. D. Rankin, B.A.; J. M. Reid, J. A. Robertson, W. I. Robertson, J. S. Y. Rogers, Murdo Rose, M.A.; H. G. F. C. le Roux, H. A. Rowland, J. L. Rubridge, Alfred Rutter, G. H. Rutter, *J. G. V. Sapp, Theodore Shennan, W. A. Simpson, J. F. Smith, M.A.; John Spurway, T. E. K. Stansfield, Thos. Steele, R. S. Stephenson, E. M. Steven, Frank Stevenson, Russell Sturgis-White, C. D. Sutherland, A. E. Taylor, J. E. Thomas, A. G. Thompson, Alex. Thomson, H. T. Thomson, J. E. Thomson, J. M. Thomson, George Thornton, Peter Thornton, Hubert Tibbits, F. R. Turton, Alexander Veitch, A. H. Walker, A. I. Webster, John Williams, J. D. Williams, S. L. N. Williams, G. M. Wilson, M. A. Wilson, J. M. Wood, David Young, *D. P. Young, J. B. Young, J. Y. S. Young.

* With distinction.

UNIVERSITY OF ST. ANDREWS.—At the annual graduation ceremonial at the close of the session, held on the 19th inst., the following degrees were conferred:—

Doctor of Medicine.—Albert Carter, London; Thomas Hill, Ledbury; Christopher S. Jeaffreson, Newcastle-on-Tyne; Samuel M'Bean, Newcastle-on-Tyne; Alex. Macdonald Murdoch, Glasgow; John Brown Oliver, Liverpool; Reginald Thos. Pearse, Cardiff; Arthur Roberts, Keighley; Arthur Roper, London; William Day Stewart, India Medical Service, Bengal; *in absentâ*, Joseph Fayrer, M.A., M.B. C.M., St. And., India.

Bachelor of Medicine and Master in Surgery.—George Rayleigh Vicars, M.A., London.

CONJOINT SCHEME OF THE COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The following have passed at the Examinations recently held:—

Second Professional Examination.—H. M. Bayer, M. F. Cahill, M. Dobbyn, F. L. Flood, J. J. Hopkins, S. Kelly, F. C. Lenehan, F. F. Mahon, E. A. Malcolmson, H. Moore, M. O'Driscoll, Joshua Pim, W. Smartt, H. E. Stone, J. G. R. Symes, W. P. Walsh, R. J. Wilson, and Jenny Wynne.

Third Professional Examination.—H. Carr, J. P. Fagan, M. Fisher, A. J. Kerin, E. P. Leavy, E. F. McCarthy, D. Martin, R. P. Ryan, R. E. Thompson, J. A. Young, and H. M. Walker.

CHARING-CROSS HOSPITAL. — The Llewellyn Scholarship and the Governors' Clinical Gold Medal have been awarded to Mr. F. H. A. Taylor.

BURIAL REFORM.—The eleventh annual meeting of the Church of England Burial Reform Association is to be held at the Mansion House on Friday, May 3rd, at 3 P.M. The Lord Mayor will preside, and will be supported by many influential gentlemen.

VACCINATION AT BANBURY.—The Banbury Board of Guardians on Thursday last agreed to enforce the Vaccination Acts, which have hitherto been in abeyance in that town.

LEEDS GENERAL INFIRMARY.—The hundred and twenty-first annual report of the Leeds General Infirmary states that during 1888 there were 4943 in-patients treated, and 24,731 out-patients. The revenue was £17,430 3*s.* 1*d.*, and the expenditure £18,757. The net amount received by the infirmary from workpeople's contributions was £4011 9*s.* 9*d.*, an increase of £364 13*s.* 5*d.* on the preceding year.

LITERARY INTELLIGENCE. — A new work on "Strathpeffer Spa, its Climate and Waters," by Dr. Fortescue Fox, is to be published immediately by Mr. H. K. Lewis. The sulphur and chalybeate waters will be carefully discussed in their chemistry and uses, and there will be chapters on the baths and on Spa life, as well as a collection of cases illustrating the Strathpeffer treatment.

FOOTBALL ACCIDENTS.—At Totnes, last week, a man named Andrews, whilst playing at football, broke his leg.—During a football match on the 17th inst., at Burnback Grounds, Alexandra-parade, Glasgow, an engineer named David Scott fell when running at an opponent, and broke his leg.—During a football match at Middlemoor, on Good Friday, a player named Hodge broke the large bone of his right leg.

GENERAL HOSPITAL, NOTTINGHAM.—The report (the 107th) read at the annual meeting of this institution, held on the 10th inst., calls attention to the continued decrease in the number of annual subscribers. The total receipts from all sources amounted to £10,539 13*s.* 5*d.* The ordinary expenses were £7987 9*s.* 7*d.*; the purchase of property amounted to £1102 18*s.*; and there remained in hand £1007 0*s.* 3*d.* The convalescent fund had enabled the weekly board to provide a change for seventeen patients.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—The annual meeting of the North-Western Branch of this Society was held in Manchester on the 11th inst. Mr. Vacher having read the first annual report of the Committee, Dr. Welch was elected President for the ensuing year, and Dr. E. W. Hope Vice-President. The new President then delivered an address on "Tubercular Consumption and its Causes," and illustrated his subject by a map showing the distribution of phthisis.

THE LONDON CEMETERIES.—At a meeting of the council of the Church of England Funeral Reform Association, held at Westminster on the 11th inst., Earl Fortescue presiding, it was stated that the Government had promised to institute an inquiry respecting the condition of the London cemeteries. Returns have also been promised giving the number of burials in each cemetery, with particulars respecting the number buried in each grave under the common interment system.

NORTH LONDON CONSUMPTION HOSPITAL.—The annual festival dinner in connexion with this hospital took place at Willis's Rooms recently. Mr. J. Allcroft presided. During the past year 345 in-patients were treated at Hampstead, and 3100 out-patients at the Tottenham Court-road branch. The committee make an appeal for additional funds, with a threefold object—namely, of paying off a mortgage of £5000 on the building at Hampstead, to meet current expenses, and to enlarge the structure. Subscriptions were announced amounting to £2000.

FATAL ACCIDENTS TO SURGEONS.—Mr. Oliphant Hamilton, L.R.C.P.Edin., L.F.P.S.Glasg., residing at Pollokshields, Glasgow, was run over last Saturday evening by a tramway car when crossing Renfield-street. The car passed over the legs of the unfortunate gentleman. The left leg and the right thigh were completely cut through, and the bones smashed. Mr. Hamilton was taken to the Royal Infirmary, where he died the following morning.—Mr. Richard O'Shaughnessy, a retired surgeon, of Cornwall-gardens, South Kensington, aged seventy-six years, died somewhat suddenly on the 13th inst. Whilst riding in Rotten-row in January last his horse became restive and threw his rider. Subsequently Mr. O'Shaughnessy suffered more or less from the shock, and on the evening of the above day he expired while at the Oriental Club, Hanover-square.

AN ARTESIAN WELL, BISHOPSGATE-STREET.—An artesian well 350 feet deep has just been completed at Messrs. Barker and Son's new brewery in Bishopsgate-street. The work has been accomplished in a little over three months. The minimum water-supply is 24,000 gallons per day.

GREAT NORTHERN CENTRAL HOSPITAL.—The annual report states that during last year 13,380 new patients were received, being 3054 in excess of the previous year. The total number of in-patients during the year was 773, and out-patients 38,321. Sir Andrew Clark, Bart., and Mr. W. S. Savory have, with their consent, been appointed hon. consulting physician and hon. consulting surgeon respectively to the hospital. Although the financial position at the close of the year was satisfactory, a sum of £20,000 is still required to complete the new building.

ROYAL METEOROLOGICAL SOCIETY.—At the usual monthly meeting of this Society held on the 17th inst., at the Institution of Civil Engineers, Great George-street, Westminster, Dr. W. Marcet, F.R.S., President, in the chair, Inspector-General R. Lawson, LL.D., read a paper on the Deaths caused by Lightning in England and Wales from 1852 to 1880, as recorded in the returns of the Registrar-General. The total number of deaths from lightning during the twenty-nine years amounted to 546, of which 442 were of males and 104 of females. In consequence of their greater exposure, the inhabitants of rural districts suffer more from lightning than those of towns. It appears also that vicinity to the west and south coasts reduces the chances of injury by lightning, and that distance from the coast and highland seems to increase them. Papers were also read on the Diurnal Range of the Barometer in Great Britain and Ireland by Mr. F. C. Bayard; on a Working Model of the Gulf Stream, by Mr. A. W. Clayden, M.A.; and on the Rime-frost of January 6th and 7th, 1889, by Mr. C. B. Plowright, F.L.S.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—On Wednesday, April 10th, a Quarterly Court of the Directors of the Society was held at 53, Berners-street, the President, Sir James Paget, in the chair. Eight new members were elected and the resignation of one accepted. Applications for grants were read from sixty-one widows, twelve orphans, and three orphans on the Copeland Fund, and a sum of £1348 10*s.* was recommended for distribution among them at the next court. The expenses of the quarter were £81 8*s.* 6*d.* The resignation of Mr. Fuller, the acting treasurer, was received with great regret by the directors. Dr. Potter was nominated for election at the annual general meeting to fill the vacancy. It was resolved that Dr. Broadbent, Dr. Braxton Hicks, Dr. Blandford, Mr. Lowne, and Mr. Butlin be recommended for election as directors, to fill the vacancy caused by the nomination of Dr. Potter as treasurer, and the places of the six seniors who retire by rotation. The annual general meeting was fixed for May 28th at 5 P.M.

PRESENTATIONS.—On the occasion of his removing to London, the governors and committee, with a few friends, of the Ulster Hospital for Children and Women presented Dr. Robert Esler with an illuminated address and a case of midwifery and surgical instruments as a memento of their esteem.—Dr. V. C. Clarke, on his retiring as governor and medical officer of Knaphill Convict Prison, was presented by the staff with an elegant and artistic silver-plated revolving breakfast dish as a souvenir of regard and gratitude for his unvarying kindness during his tenure of office among them.—The Mid-Calder Ambulance Class, Edinburgh, in connexion with St. Andrew's Ambulance Association, has presented Dr. A. Wilson, the lecturer, with a handsome marble dining-room timepiece, in appreciation of his services rendered to the class.—On the 16th ult. the lady pupils of a nursing class held in connexion with the St. John Ambulance Association presented Dr. T. W. Shortridge, of Honiton, with a handsome plated breakfast dish and stand, in recognition of his services as lecturer.—Mr. H. B. Lingham, L.R.C.P. Edin., M.R.C.S. Eng., has been presented by his neighbours and other friends, residents of Acton, with a handsome illuminated address, containing the signatures of the subscribers to the testimonial, also with a silver salver (suitably inscribed), and a cheque for £300, as tokens of esteem and high appreciation of long (upwards of thirty years) distinguished public services rendered to Acton in many ways. At the same time a diamond bracelet was presented to Mrs. Lingham.

ARREST OF A MEDICAL OFFICER OF HEALTH IN MOSCOW.—One of the Moscow medical officers of health has recently had rather an unenviable experience of the consequences which may result from an excess of zeal. He happened to be walking down a certain street not in his own district at three o'clock in the morning, when he detected a very foul odour. On looking about to see whence it proceeded, he discovered that its source was a quantity of foul water, which was being pumped out on to the street from the cellar of a fish shop. As this was close to a police-station, he called there and made inquiries. On being informed that the pumping of the foul water on to the street had been authorised by the commissary of police, he asked the policeman at the station for his number. Upon this the man proceeded to lock him up in a cell as an unknown person found drunk, although told that he was a medical officer of health and shown his authorisation as such, which the unfortunate doctor happened to have in his pocket. After spending the night along with the usual occupants of a police cell, he was brought in the morning before the magistrate, who of course released him. An attempt will be made to obtain some compensation from the police for false imprisonment.

BOOKS ETC. RECEIVED.

BAILLIÈRE ET FILS, Paris.
De la Tarsectomie Antérieure, totale et partielle, dans les cas pathologiques. Avec 2 Planches gravées. Par le Dr. Chobaut. 1889. pp. 136.

BLAKISTON, SON, & CO., Walnut-street, Philadelphia.
Handbook of the Diagnosis and Treatment of Skin Diseases. By A. Von Harlingen, M.D. Second Edition, enlarged and revised, with 8 Plates and other Illustrations. 1889. pp. 410.
Examination of Water for Sanitary and Technical Purposes. By H. Leffmann, M.D., and Willm. Beam, M.A. 1889. pp. 106.

CASSELL & COMPANY, LIMITED, London.
Subjects of Social Welfare. By the Right Hon. Sir Lyon Playfair. M.P. 1889. pp. 392.

CHURCHILL, J. & A., New Burlington-street, London, W.
Leprosy an Imperial Danger. By H. P. Wright, M.A. 1889. pp. 127.

GRIFFIN, CHARLES, & CO., Exeter-street, Strand, London.
Year-book of the Scientific and Learned Societies of Great Britain and Ireland. Compiled from official sources. Sixth annual issue. 1889. pp. 234.

HIRSCHWALD, AUGUST, Berlin.
Practicum der Pathologischen Histologie. Von Dr. Oskar Israel. Mit 133 Abbildungen im Text und einer Lichtdrucktafel. 1889. pp. 390.

KEGAN PAUL, TRENCH, & CO., Paternoster-square, London.
The Primitive Family, in its Origin and Development. By C. N. Starcke. 1889. pp. 315. Price 5*s.*

LEWIS, H. K., Gower-street, London, W.C.
The Treatment of Lateral Curvature of the Spine, with Appendix on the Treatment of Flat-foot. By Bernard Roth, F.R.C.S. With Photographs. 1889. pp. 56.
Exploration of the Chest in Health and Disease. By Stephen S. Burt, M.D. 1889. pp. 206.

MACMILLAN & CO., London and New York.
The Bacteria in Asiatic Cholera. By E. Klein, M.D., F.R.S. 1889. pp. 179.

MASSON, G., Paris.
Comment on fait parler les Sourds-muets. Par L. Goguillot. Précédé d'une Préface de M. le Dr. Ladreit de la Charrière. Avec 76 Figures. 1889. pp. 351.

PUTNAM'S SONS, New York and London.
Suggestive Therapeutics: a Treatise on the Nature and Uses of Hypnotism. By H. Bernheim, M.D. Translated by C. A. Herter, M.D. New York. 1889. pp. 420.
The Insane in Foreign Countries. By W. P. Letchworth. 1889. pp. 374.
Lectures on the Errors of Refraction and their Correction with Glasses. Delivered at the New York Post-graduate Medical School, with illustrative Cases from Practice, both Private and Clinical. By Francis Valk, M.D. 1889. pp. 241.

RENSHAW, HENRY, 356, Strand, London.
Diseases of the Nose and Naso-pharynx. By Hilton Forbes, M.D., F.R.C.S.E. 1889. pp. 156.

SIMPKIN, MARSHALL, & CO., London.
A Journal of the Great Plague of Marseilles in the year 1720. Republished with an introduction by E. Evan Meeres, M.D. Lond. 1889. pp. 79.

SWAN SONNENSCHEIN, LOWREY & CO., Paternoster-square, London, E.C.
For the Protection of Animals from Vivisection. The Futility of Experiments with Drugs on Animals. By Edward Berdoe, L.R.C.P. Edin. 1889. pp. 46. Price 6*d.*
The Modern Rack-papers on Vivisection. By Frances Power Cobbe. 1889. pp. 272.
The Elements of Vital Statistics. By A. Newsholme, M.D. Lond. 1889. pp. 326.

The Quantitative Estimation of Phosphoric Acid (Citro-uranic Method) in Phosphates and Manures; by M. A. Joulie, translated by J. Barker Smith (Dulwich, London, S.E.), price 1s.—Periodicals, Transactions, and Reports in the Library of the New York Academy of Medicine. Part I.: United States and Great Britain (Rockwell & Churchill, Boston, U.S., 1889).—Argument on the Question of the Validity of the Treaty of Limits between Costa Rica and Nicaragua, submitted to the Arbitration of the President of the United States of America; by Pedro Pérez Zeledon. Reply to the above Argument, to be decided by the President as arbitrator (Gibson Brothers, Washington, 1887).—The Secret of Preserving the Teeth; by Joseph J. Chapman (published at 20, Boundary-road, London), price 6d.—Index Medicus: Authors and Subjects. Index to Vol. X.; also Vol. XI., No. 3, March, 1889 (Trübner & Co., and Lewis, London).—Notes on Report of the Departmental Committee appointed to inquire into Pleuro-pneumonia and Tuberculosis in the United Kingdom: by R. P. Ritchie, M.D. (Oliver & Boyd, Edinburgh, 1889).—Knight's Guide to the Arrangement and Construction of Workhouse Buildings, with Notes and Diagrams (Knight & Co., London, 1889).—Nauheim, its Remedies, Indications, and Results, after a practice of twenty-one years at the watering-place of Nauheim; by Wilhelm Bode, Jun., M.D. (J. F. Bergmann, Wiesbaden, 1889).—An Inquiry into the Condition and Occupations of the People in Central London; edited by R. A. Valpy, B. A. (E. Stanford, London, 1889); price 1s.—Manuel d'Autopsies, ou Méthode de pratiquer les Examens Cadavériques au point de vue clinique et médico-légal; par T. Harris, M.D. Lond.; traduit sur la première édition anglaise et annoté par le Docteur H. Surmont (A. Manceaux, Bruxelles, 1888).—Des Cabinets d'Aisance: Étude d'Hygiène domestique; par le Dr. S. C. Zavitziano (Constantinople, 1888).—Mens and Corpus (Limited); or, no Premium required. An Essay on Life Insurance; by a Physician (W. H. & L. Collingridge, London).—Lichen Ruber as observed in America, and its Distinction from Lichen Planus; by R. W. Taylor, M.D. (D. Appleton & Co., New York, 1889).—Life: What it is Sustained by, and Cognate Subjects; by Wm. Boggett, 1889, pp. 56 (Trübner & Co., Ludgate-hill, London).—The Progress of Medicine at St. Bartholomew's Hospital; by N. Moore, M.D., F.R.C.P. (Adlard & Son, Bartholomew-close, 1889).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BAILEY, T. R., M.D.Edin., M.B., C.M., has been reappointed Medical Officer of Bilston, Staffordshire.

BOYD, J. ST. CLAIR, M.D.Irel., M.Ch., has been appointed a Medical Officer to the Ulster Hospital for Children and Women.

CARMICHAEL, E., M.D.Edin., M.B., C.M., has been appointed Visiting Medical Officer to Edinburgh Poorhouse.

EDWARDS, O. H., L.K.Q.C.P.I., has been appointed Resident Medical Officer to the Bootle Infectious Diseases Hospital, vice G. B. Heffernan, resigned.

FAUSSET, J. D., M.D.Dub., L.M. and L.S., has been reappointed Medical Officer of Fleetwood Port and Union Districts, Lancashire.

FRYER, G. E., L.R.C.P.Lond., M.R.C.S., has been appointed Assistant Medical Officer to the Workhouse Infirmary, Township of Manchester.

GRIFFIN, J., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Cropredy District, Banbury.

GUTTERIDGE, E. P., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Union and Port Districts, Maldon, Essex.

HARPER, J. W., M.R.C.S., L.S.A., has been reappointed Medical Officer of Stowmarket.

HEASMAN, W. G., M.R.C.S., L.R.C.P., has been appointed Medical Officer of the Aldborough District, Erpingham Union.

JOHNSTON, C. S., M.R.C.S., L.S.A., has been appointed Assistant Medical Officer of the New Infirmary, Birmingham.

KEMPE, J. A., F.R.C.S., has been appointed a demonstrator of Anatomy in Queen's College, Birmingham.

LEE, GEORGE T., M.R.C.S., L.S.A., has been appointed Senior Assistant Medical Officer to the County Asylum, Stafford.

MACPHERSON, JOHN, M.B., C.M., has been appointed Medical Superintendent of the Stirling District Asylum, Larbert, N.B.

MAHOOD, ALLAN E., M.B., M.Ch. R.U.I., has been appointed Medical Tutor and Demonstrator of Anatomy in Queen's College, Birmingham, vice Dr. Hogben, resigned.

ORR, A. AYLMER, M.A., M.B., B.Ch.Oxon., M.R.C.S., has been appointed Registrar and Anæsthetist to the Royal Hospital for Children and Women, Waterloo-bridge-road.

PENNY, W. J., F.R.C.S.Eng., has been appointed Surgeon to the Bristol General Hospital, vice Keall, deceased.

POTTS, F. R. H., M.R.C.S., has been appointed House Surgeon to the Wallasey Dispensary, vice R. H. Maddox, resigned.

PRIDEAUX, T. E. P., L.R.C.P.Lond., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Wellington Rural District, and Medical Officer of the Second District, Wellington Union.

ROBSON, J. M., M.R.C.S., has been appointed Honorary Surgeon to the North Shields and Tynemouth Dispensary.

SUCKLING, C. W., M.D.Lond., M.B., M.R.C.S., has been appointed Medical Officer of the New Infirmary, Birmingham.

THORPE, A. E., L.R.C.P., L.R.C.S.Ed., L.F.P.S.G., has been appointed Junior Assistant Medical Officer to the County Asylum, Stafford.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

CAMBRIAN LODGE (ODDFELLOWS), Swansea.—Medical Officer.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Assistant House Surgeon. Salary £10 per annum. Board, lodging, and washing allowed.

ROTHERHAM HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, furnished apartments, and washing.

ROYAL ASYLUM, Morningside, Edinburgh.—Junior Assistant Physician.

ROYAL LONDON OPHTHALMIC HOSPITAL.—Clinical Assistants and Junior Assistants.

TORBAY HOSPITAL AND PROVIDENT DISPENSARY, Torquay.—Junior House Surgeon and Dispenser.

VICTORIA UNIVERSITY (THE YORKSHIRE COLLEGE), Leeds.—Lecturer on the Diseases of Women and Children.

WARWICK COUNTY LUNATIC ASYLUM.—Medical Superintendent of the two asylums at Hatton, near Warwick. Salary £600 a year, with furnished house, coals, gas, and washing.

WESTERN GENERAL DISPENSARY, Marylebone-road.—Junior House Surgeon. Salary £75 per annum, with furnished apartments, coals, gas, and attendance, but no board.

WILLESDEN LOCAL BOARD.—Medical Officer for the District of Willesden, at a salary of £100 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BUXTON.—On the 18th inst., at 82, Mortimer-street, Cavendish-square, the wife of Dudley Buxton, M.D., of a son.

CREAGH.—On the 20th inst., at the residence of her father, Lee-road, Blackheath, the wife of Surgeon S. H. Creagh, M.S., of a son (stillborn).

JACKSON.—On the 18th inst., at Swan-hill, Shrewsbury, the wife of Arthur Jackson, F.R.C.S., of a son.

JAMES.—On the 20th inst., at Cazenove-road, Stamford-hill, N., the wife of C. A. James, L.R.C.P., M.R.C.S., D.P.H. Eng., of a son.

LANGTON.—On the 15th inst., at Marlborough-place, Brighton, the wife of Herbert Langton, M.R.C.S., of a son.

MAC LEHOSE.—On the 21st inst., at Devonshire-street, Portland-place, the wife of Norman M. Mac Lehose, M.B., of a son.

WOOLLETT.—On the 16th inst., at Southwold, Suffolk, the wife of Sidney Winslow Woollett, M.R.C.S., of a son.

MARRIAGES.

BUCKLE—WALLIS.—On the 17th inst., at St. George's, Bloomsbury, Fleetwood Buckle, M.D., Fleet-Surgeon R.N., only son of the late William Buckle, Esq., C.B., Assistant Coiler of Her Majesty's Mint, London, to (Nurse Emma) Amy Provo Wallis, Kent and Canterbury Hospital, and Portland-place, W., niece of Sir Francis Pettit Smith, of Cintra.

O'REILLY—PRESGRAVE.—On the 21st ult., at Sitapur, Surgeon-Major Thomas O'Reilly, Medical Staff, to Ethel Isabella Presgrave, fifth daughter of the late Captain Duncan Kyd Presgrave, Commanding the 8th Bengal Native Infantry.

PACKER—RUTTER.—On the 11th inst., at St. Philip's Church, Kensington, William Herbert Packer, M.D., of Cressage, near Shrewsbury, to Edith Mary, elder daughter of the late William Rutter.

ROBERTS—DULLEY.—On the 20th inst., at Dacre Park Chapel, Lee, Blackheath (from the residence of the bride's aunt, Dacre Park), William Roberts, M.B., C.M., M.R.C.S., L.S.A., of Paris, to Edith, eldest daughter of David Dulley, Fairlawn, Wellingboro'.

SHENTON—EMMERSON.—On the 18th inst., at St. Margaret's Church, Leicester, Wm. Snelson Shenton, of Belgrave Gate, Leicester, to Kate, fourth daughter of W. L. Emmerson, M.D., County Analyst, Leicester.

DEATHS.

BREND.—On the 16th inst., after great and prolonged suffering, William Brend, M.R.C.S. Eng., of Argyll-road, Kensington, W.

BRATTON.—On the 18th inst., at Claremont Hill, Shrewsbury, James Bratton, J.P., F.R.C.S.E., L.S.A., aged 76.

ELLIS.—On his return home from Bombay, Surgeon-Major John Ellis, of the Indian Medical Service, aged 54.

HARRIS.—On the 14th inst., at Wootton-under-Edge, suddenly, of angina pectoris, Clement Mears Harris, F.R.C.S.E., aged 73.

HARVEY.—On the 25th inst., at 16, Hanover-terrace, Ladbroke-square, Alexander Harvey, M.D., Emeritus Professor of Materia Medica in the University of Aberdeen, aged 78. Friends are requested to accept this intimation.

KIRKPATRICK.—On the 16th inst., at Upper Merrion-street, Dublin, John Rutherford Kirkpatrick, M.D., F.K.Q.C.P.I., King's Professor of Midwifery, School of Physic, Trinity College, Dublin, aged 57.

LATTEY.—On the 18th inst., at 23, St. Mary Abbott's-terrace, Kensington, James Lattey, M.R.C.S., aged 47.

MACRAE.—On the 18th inst., at Redcliff-crescent, Bristol, Donald Macrae, M.B. and C.M. Edin., aged 46.

WATHEN.—On the 19th inst., suddenly, of angina pectoris, at his residence, Castle Hill, Fishguard, Pembrokeshire, William Dean Wathen, M.R.C.S. Eng. and L.S.A., aged 69.

WHITLING.—Suddenly, on board the *Orient*, Henry Townsend Whitling, M.R.C.S., of Croydon, aged 56.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, April 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Drs. Bristowe and Copeman: Paroxysmal Hæmoglobinuria.—Dr. C. Theodore Williams: On the Pneumatic Cabinet (the cabinet will be shown).

Tuesday, April 30.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Jean Paul Richter: The Italian Renaissance Painters: their Associations.

SOCIETY OF ARTS.—8 P.M. Capt. Wiggins: The Northern Waterway to Siberia.

Wednesday, May 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M. Saturday, 1 P.M.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical visits on Wednesday and Saturday at 9.15 A.M.

ROYAL INSTITUTION.—1.30 P.M. Annual Meeting.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown. Dr. John Phillips: On Acute Non-septic Pulmonary Disorders as Complications of the Puerperium.—Dr. Newman: Case of Inversion of the Uterus.

SOCIETY OF ARTS.—8 P.M. Mr. William Henry Preece: Secondary Batteries.

Thursday, May 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Eadweard Muybridge: The Science of Animal Locomotion in its Relation to Design in Art (illustrated by the Zoopraxiscope).

THE SANITARY INSTITUTE (Parkes Museum).—5 P.M. Dr. Bushell Anningson: Rural Epidemics.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Patients and Card Specimens at 8 P.M.:—Dr. Reid (Glasgow): (1) Microscopical Sections of Follicular and Trachomatous Conjunctivitis; (2) Instrument for demonstrating Conjugate Foci.—Dr. W. J. Collins: (1) Case of Granulation Iritis from Non-penetrating Injury; (2) Case of Retinal Degeneration and Detachment, with Albuminuria; (3) Case of Albuminuric Retinitis of Pregnancy; (4) Transient, Spontaneous, Symmetrical Œdema of Eyelids. Papers:—Dr. Benson: On Cyst of the Iris.—Mr. J. Hutchinson, jun.: Central Choroiditis due to Concussion of the Eye.—Dr. Reid: Two cases of Orbital Tumour.—Dr. Berry: On the Light-sense in Optic Neuritis.

Friday, May 3.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

SOCIETY OF ARTS.—8 P.M. Major-General Sir R. Murdoch Smith: The Karun as a Trade Route.

ROYAL INSTITUTION.—9 P.M. Sir Henry Roscoe: Aluminium.

Saturday, May 4.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Joseph Bennett: The Origin and Development of Opera in England (with Musical Illustrations).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 25th, 1889.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Apl. 19	30·22	S.W.	50	48	104	71	46	..	Bright
,, 20	30·11	S.W.	53	50	92	61	48	..	Cloudy
,, 21	29·87	S.W.	53	46	96	56	43	..	Cloudy
,, 22	29·82	S.W.	51	47	115	61	42	..	Cloudy
,, 23	29·82	W.	49	45	106	57	40	·04	Cloudy
,, 24	29·45	W.	47	44	91	52	43	·42	Cloudy
,, 25	29·73	N.E.	46	45	79	50	43	·16	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

THE PHYSICIAN AS MORAL TEACHER.

IN the course of an article upon "Physiological Morality, a contribution to social science and preventive medicine" (*Medical Register*, April 13th), Dr. Frank S. Billings writes:—

> "Physicians, and not theologians, must eventually become the real moral teachers of the world. Religion is not morality. Her teachers have assumed the right to teach upon a subject they know nothing about. The physicians know still less. The physician of to-day is more or less a fraud. He does not, or will not comprehend the true mission of his own profession. He thinks that to be called a successful practitioner is to attain the highest place in the medical field of honour. He does not know that the very fact of the existence of therapeutics, or the necessity of treating disease, is the strongest evidence of the weakness of an incompetency of his profession. The true aim of medicine is prevention. The physician treats disease simply because he does not know enough to prevent. In some cases he knows enough, but is so sordid of mind that he prefers to treat rather than instruct the people how to prevent; because *there is more money in it.* When man knows himself, and his intellect is sufficiently developed so that he comprehends his place in nature, and subjects his actions to the physiological laws of his organism, when the physician is so educated as to realise that his chief work is to seek to prevent by educating the people, the treatment of disease will become largely a thing of the past."

H T.—The sanitary administration of the metropolis is carried on mainly under the Metropolis Local Management Acts and the Nuisance Removal and Sanitary Acts. For the demolition of unhealthy dwellings the powers are the same as those in force in other parts of England and Wales.

Dr. Blenkinsop.—We do not think any discourtesy was intended.

DR. STERNBERG'S PAPER ON CROUPOUS PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—I beg to call attention to the fact that in copying the illustrations accompanying my paper on "The Etiology of Croupous Pneumonia" (THE LANCET, March 9th, 1889, p. 475), the wood engraver has changed the form to some extent, especially in Fig. 1. The cocci, as found in the blood of an inoculated animal, are, as a rule, oval or lance-oval in form, but this character has to a considerable extent been lost in the figure referred to. In Fig. 2 also the elements are made more irregular in form and broader than in the original drawing.

I am, Sirs, very truly yours,

Havana, Cuba, April 6th, 1889. GEO. M. STERNBERG.

DEAF-MUTES.

MR. WILLIAM VAN PRAAGH, director of the Association for the Oral Instruction of the Deaf and Dumb, writes, expressing entire agreement with the condemnation contained in Mr. James Howard's letter, published in THE LANCET of the 6th inst., of adult societies as promoting intermarriages of the "deaf and 'so-called' mutes." Mr. Van Praagh, however, thinks that Mr. Howard has had no experience of well-regulated day schools when he deprecates their existence and advocates instead large deaf and dumb asylums. Mr. Van Praagh maintains that the attendance of deaf children in well-disciplined day schools is as regular as in schools for the hearing, in addition to which the going to and from school is a great source of mental development. The mingling of deaf children in large asylums must certainly be worse than the casual meeting of schoolfellows on their way home. The balance of the *pros* and *cons* is certainly in favour of day schools. He repeats that Mr. Howard's condemnation of day-schools for deaf children is based upon inadequate information and wrong principles, and asserts that large asylums fully share with adult societies the responsibility of promoting the objectionable inter-marriages.

Mr. B. Barnard, M.B., C.M.—We think a military surgeon should not take civil practice. The case is one for courteous remonstrance, first with the individual; that failing, with the authorities.

TEMPTING OFFERS TO MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—The letter of Dr. Lowe, exposing the insulting offer of the Royal Liver Friendly Society, will, I fear, have no more effect than the numerous similar letters you have published. But the managers are business men, and we must try to convince them that meanness does not pay. Of this I can give two recent instances, which there can be no indiscretion in publishing, as I am ignorant of the names of the friendly societies concerned, and, of course, of their medical advisers.

This morning (Good Friday) I was called to see a working man said to be suffering from extreme weakness, notwithstanding an extraordinarily good appetite. Upon entering the room, a well-remembered faint, fruity smell, together with the pinched countenance and dried-up, claw-like hands of the patient as he grasped his broomsticky thighs, were enough for a diagnosis. The man had had well-marked symptoms, including complete loss of sexual power, for between three and four months. This typical diabetic insured his life for £50 on the 8th of this month.

Five weeks since I went a few miles into the country to see a middle-aged female, who had recently insured her life in a friendly society. She was very stout, with hepatic dulness extending almost to the umbilicus, slight icterus, occasional epistaxis, &c. She had besides such minor incommodities as large bunches of varicose veins, a ventral hernia for which no belt was worn, and a completely ruptured perineum. Her friends believed she had been taken as a first-class life. The avowed reason for sending for me was that the club doctor should be kept ignorant of the alcoholism.

To examine a case systematically requires more time than the humblest of us will care to give for half-a-crown. Without system one must make a shot which sometimes misses, to the great loss of the benefit society and the encouragement of dishonesty in the public. The friends of both patients quite understood that the societies had been "done." The man, at least, had acted in good faith; for only one question was asked him, and that was not of a nature to elicit evidence of diabetes mellitus.

I am, Sirs, yours faithfully,

Shoot-up Hill, N.W., April 19th, 1889. ALFRED R. HALL.

VACCINATION OF NEWLY-BORN CHILDREN.

PROF. WOLFF of Berlin has made a careful study of the subject of the vaccination of newly-born children, and has come to the conclusion that these subjects bear vaccination either with calf or with humanised lymph very well, never suffering from general disturbance or from fever; also that the protection afforded is quite as perfect as in the case of older persons. He consequently recommends that the vaccination law should be made more stringent, by all infants, however young, being forced to be vaccinated on the outbreak of a small-pox epidemic.

Alumnus Academicus.—The subject is one more adapted to our Students' Number.

Mr. Nathl. Edwd. Davies is thanked for his second interesting letter.

RETRENCHMENT.

To the Editors of THE LANCET.

SIRS,—Being in practice in the country, and finding ourselves in difficulties from the smallness of our receipts and the greatness of our expenses, we shall be much obliged if any of your correspondents will kindly help us by answering the following questions.

How can we reduce our drug bill? Where can we obtain the cheapest efficient substitutes for the official tinctures and other expensive preparations?

We are, Sirs, yours truly,

April 15th, 1889. B. T. & J.

A MATTER FOR CONGRATULATION.

WE take the following from the *Canadian Practitioner*, No. 7.

> "The craze for spaying women is fast dying out in New York. It is now conceded by the most aggressive gynæcologists here that the operation has been fearfully abused. There can be no doubt that the operation is sometimes necessary; but the wholesale sacrifice of ovaries that was once so prevalent here, and whence some of our Western gynæcologists caught the infection, is a thing of the past. I have seen two cases here, but in each the ovaries were extensively diseased, and the tubes distended with pus. They were a constant source of pain and sickness to the patients, who were incurably sterile, and the proper thing to do was to take them out. But they presented a striking contrast to the normal tubes and ovaries that I have seen exhibited, in times past, to the Marion County Medical Society.—New York Correspondence of the *Indiana Medical Journal*."

Medicus.—Such cases are not frequent, and there is no rule for conduct, but that of reason and kindness. It would scarcely be reasonable to expect a retired medical man to act as locum tenens to all the doctors of his neighbourhood. The case must be regarded as one for special arrangement.

Public Health.—There are no legal powers; but some good would probably result from seeing that proper provision is made in the school for keeping hats and clothes of the different children separate, and by advice to parents as to the need for treatment of the affection.

CHECKING THE SPREAD OF INFECTIOUS DISEASE.

To the Editors of THE LANCET.

SIRS,—We are now in the second year of a severe epidemic of scarlet fever, with occasional touches of diphtheria. I have seen so much of the mischief done by the inefficiency of the present measures for stopping infection that I wish to draw your attention to some mode of relief. I am quite aware that where proper measures are taken and effectively carried out such a long continuance of the disease should not be possible; but the working classes especially are, under the usual means taken by medical officers of health, town councils, &c., so hardly treated that I am not surprised at their being not over-anxious, or rather not desirous, for the visits of the inspector. Without taking up too much of your valuable space I wish to mention what I think might lead to an improved state of affairs. I think that if an Act were passed empowering the local authorities, in a district attacked by infectious disease, to render compensation to the inmates of a house declared the abode of such disease, provided immediate notice were given to the authorities so soon as the practitioner in attendance declared the disease to be infectious, we should soon be getting to a better and safer condition of affairs; it is useless, however desirable it might seem, to expect parents to welcome the visits of the inspector and the medical officer when they know from sad experience that such visits mean, in many cases, deprivation of the principal means of livelihood; at any rate, from the exertions of the female part of the house. I know many instances where the mother and daughters make from 12*s.* to 20*s.* a week by laundry work. Now, this is the work that should be stopped in the event of infections occurring. This very week I have seen a farmer churning butter alongside a bed whereon lay his daughter ill of diphtheria. This man cannot afford to have his butter unsold: and the same is the case where milk is sold. This farmer would be only too glad to discontinue selling his butter and milk, and generally to aid in every way in preventing the spread of disease existing in his house. To this end I would treat human beings in the same manner as is done so beneficially in the case of infectious diseases—i.e., declare the house infected, and give proper and prompt compensation to the victims. I believe a plan carried on these principles would very speedily be of more use in the present condition of things—at any rate, in isolated districts—than the existing method.

I am, Sirs, yours truly,

April, 1889. CLUB.

MUNICIPAL BIOLOGICAL LABORATORY OF BARCELONA.

DR. FERRÁN, the Director of the Municipal Biological Laboratory of Barcelona, has just issued the report of the work done in that institution in inoculating persons bitten by rabid animals according to the "supra-intensive method" suggested by himself. Altogether, up to March 31st, 439 persons were inoculated. Of these, 90 had been bitten by animals proved experimentally by researches carried out in the laboratory to have suffered from rabies, 107 had been bitten by animals stated to have been so suffering by medical men or veterinary surgeons, and 242 had been bitten by animals which were merely suspected of being rabid. Of all these patients only one had died up to the time when the report was issued. No indication, however, is given of the length of time these inoculations had been carried on, so that it is quite possible that the majority of the cases had only been inoculated a very short time. In addition to the human inoculations, 110 dogs were inoculated, or "vaccinated," with no deaths.

Mr. E. Hopkins.—The founder of the Goulstonian lecture was Dr. Thomas Goulston, Fellow of Merton College, who resided in St. Martin's parish, Ludgate-hill, and who died in 1632.

HOSPITALS FOR THE INSANE AND THE LONDON COUNTY COUNCIL.

IN our leading article last week on the Lunatic Asylum System, we spoke of the question raised by Mr. Brudenell Carter in reference to the establishment of asylum hospitals as having been referred to the "Asylums Committee." This, we learn, was inaccurate, the matter having been referred to a Special Committee of the Council.

Meteorologist.—Such charts will be found in "Mansill's Almanac" for 1889, published in Rock Island, Illinois.

J. P. F.—No. The evidence is not sufficient to warrant such a conclusion.

Dr. Stevenson is thanked.

DEATH OF A MEDICAL MAN AFTER SUCKING A TRACHEOTOMY TUBE IN A CASE OF DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—If anybody who can swim is justified in trying to save a fellow creature from drowning by jumping into deep water, I think it must be allowed that a surgeon is justified in sucking a tracheotomy tube in order to clear a blocked trachea or the large bronchi. Of course such spontaneous action depends on individual character, and, again, whether the operator has near and dear relatives dependent upon him. For my own part, should it again fall to my lot to believe that I had a fair opportunity of saving life by sucking at a tube I should do so, for I do not consider any suction instrument is so effective as the mouth, and I should after the performance put myself rapidly under the influence of mercury, being convinced that mercury would ward off any attack of diphtheria or cervical cellulitis of Ludovici, both of which complaints I have sucked tubes for, saved life from, and suffered from, fortunately only for a few days, although on one of the occasions the sucking had to be continued for just upon an hour in order to clear the blood from the patient's bronchi, and enable him to breathe without artificial respiration.

I am, Sirs, yours faithfully,

April 23rd, 1889. W.

Club.—Granulated sulphate of iron, 224 gr.; phosphate of sodium, 200 gr.; bicarbonate of sodium, 56 gr.; concentrated phosphoric acid, 1½ fl. oz.; refined sugar, 8 oz.; distilled water, 8 fl. oz.

Tyro.—The information will be found in our Students' Number, published in September last.

Mr. R. Henry.—1. Balfour Stewart.—2. Roscoe.—3. Mitchell Bruce or Garrod.

"ERRORS IN THE MEDICAL REGISTER."

To the Editors of THE LANCET.

SIRS,—I have to thank Mr. R. H. S. Carpenter for his courtesy in describing my letter as "monstrous nonsense." I know nothing about the Association he talks of, nor do I wish to be further enlightened concerning this society, its prosecutions or proceedings. For the substantiation of the truth of my statements, I beg to refer "M.B. C.M." to the "Abstract of Laws affecting the Medical Profession," at page 15 of this year's issue of the "Medical Directory." A practitioner registered in all three branches of the profession (by virtue of which he practises his profession) may possess as many other diplomas, degrees, honorary distinctions, and courtesy titles as he chooses; he may be an M.D. of Lambeth or of the United States, or be a Count of the Holy Roman Empire, and not even such an important and powerful society as the Alliance Association can interfere with him. Mr. Carpenter would have us believe that, after all our boasted freedom, this is not a free country.

I am, Sirs, yours faithfully,

April 22nd, 1889. M.D., M.R.C.P.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir A. B. Garrod, London; Dr. Martin, Manchester; Mr. R. Harrison, Liverpool; Mr. Wharton Jones, Ventnor; Dr. Mackenzie, Edinburgh; Rev. F. Lawrence, York; Mr. J. W. Hawtrey, Windsor; Dr. Dawson Burns, London; Dr. D. G. Evans, London; Mr. Stamford, Tunbridge Wells; Dr. Russell Steele, Hemel Hempstead; Messrs. Johnson and Co., Edinburgh; Dr. Thompson, Fishponds; Dr. Waterhouse, West Hampstead; Mr. N. E. Davies, Sherborne; Mr. H. S. Raynes, Stoke Newington; Dr. Goodridge, Bath; Messrs. Burroughs, Wellcome, and Co., London; Mr. Barwell, London; Mr. McClure, Cromer; Mr. Van Praagh, London; Mr. Haviland, Douglas; Mr. Bapty, Alexandra Palace; Mr. J. Odling, London; Surgeon-Major MacLaren, Dehra Dun; Mr. Blackett, London; Dr. T. Savill, London; Dr. Manby, East Rudham; Mr. Stevens, Newington; Mr. R. Henry; Messrs. Ratti and Co., London; Dr. J. F. W. Silk, London; Dr. Bisshopp, Tunbridge Wells; Dr. H. W. M. Tims, London; Dr. Dalgleish, Reading; Dr. S. Snell, Sheffield; Dr. McLaren, Edinburgh; Dr. A. R. Hall, Brondesbury; Dr. Lœwenberg, Paris; Dr. Barnard, Alderney; Mr. Conolly, Ealing; Dr. Stearenson, London; Mr. Hine, Ealing; Dr. Alexander, Aachen; Mr. W. Marriott, London; Dr. Auld, Glasgow; Dr. E. F. Neve, Kashmir; Mr. J. L. Hamilton, London; Dr. B. F. Giles, Wem; Mr. C. Gordon-Stuart; Mr. Poland, London; Mr. R. D. Evans, Llysmeddyg; Dr. Sternberg, Havana; Mr. Tinker, Ipswich; Mr. Hunter, Paisley; Mr. Hopkins, Llandilo; Mr. J. Holm, London; Mr. Jerrett, Plymouth; Dr. Donald, Manchester; Mr. Brock, Thurso; Mr. Lewis, Birmingham; Club; M.D., M.R.C.P.; G.; W.; Cantab.; Alumnus Academiæ; J. W., London; Medicus; M. A., London; Rotherham Hospital; S., London; A. O. B., London.

LETTERS, *each with enclosure,* are also acknowledged from—Dr. Clouston, Edinburgh; Mr. Oliver, Kent; Mr. Jenkins, Swansea; Mr. Hollins, Staffs; Mr. Hemming, Glamorgan; Messrs. Byrt and Son, Shepton Mallet; Mr. Forster, Cornwall; Dr. Taylor, Andover; Messrs. Evans and Co., Warwick; Mr. Crassweller, London; Messrs. Roberts and Co., London; Mr. Heywood, Manchester; Messrs. Fenwick and Chenery, London; Mr. Steventon, Staffs; Mr. Jeky, Wokingham; Mr. Andrew, London; Mr. A. Lorette, Paris; Dr. Johnston, Sheffield; Mr. Booth, Eastbourne; Dr. Emerson, Leicester; Mr. Packe, Torquay; Mr. Kelvin, Manchester; Mr. Windle, Halifax; Messrs. Van Houten; A. Z., London; M., Clapham; Dr. P., London; Medicus, Glamorgan; Victoria, London; Phlegmon, London; Virtutis Amore; Æsculapius, London; Flavius, London; Hospital for Sick Children, Manchester; Sphinx, London; S. K., London; Bushmills Distillery, Belfast; Suburbs, London; Tutbury, Burton; Emeritus, London; S. C., Canonbury; M.B., London; S., London; Medicus, Hull; Permanency, London; S. X., London; H. H., Ashton-under-Lyne; M.R.C.S., Greenwich; Medicus, Halifax; Oxford, London; L. O., London; Medicus, Liverpool; K., Cheshire; Alpha, Birmingham; W. H., London; Medicus, Berks; Monks, Southport; M. P., London; X., St. Helens; Delta, London; Rus, London; Domum, London; X. Y., Bath; R. R. V., London; R., London; Vigomia, London; X., London; Sanitas, London; Periteau, Winchelsea; B. E., London; P. J. L., London; Alpha, Sunderland; H. & R., Rotherham; J. T., London; Medicus, Gloucester; A. B., London; B.Sc., London.

Belfast News Letter, Surrey Advertiser, Herald and Weekly Free Press, Shelbyville Daily Democrat (Indiana), Huddersfield Daily Examiner, Reading Mercury, Hertfordshire Mercury, Daily Evening Republican (Indiana), Udgorn Rhyddid, Herald Cymraeg, Night and Day, The Speculum, The Tattler, The Sun, &c., have been received.

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